

THE GEOGRAPHICAL MAGAZINE

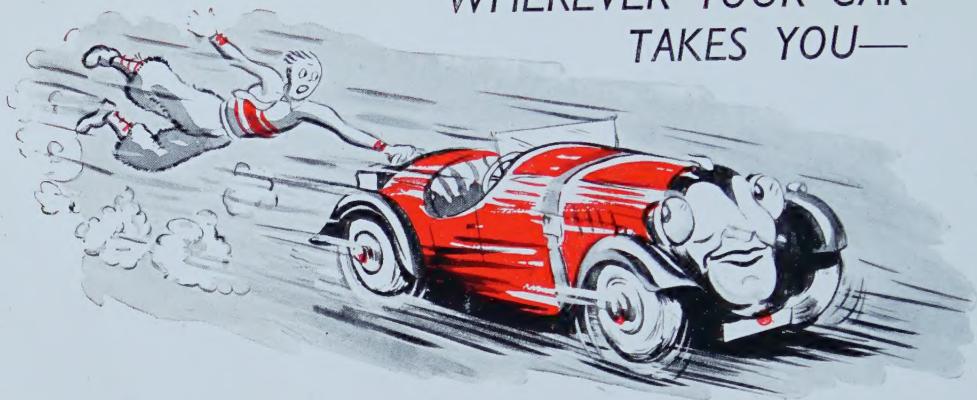
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The Evolution of Vienna. I.

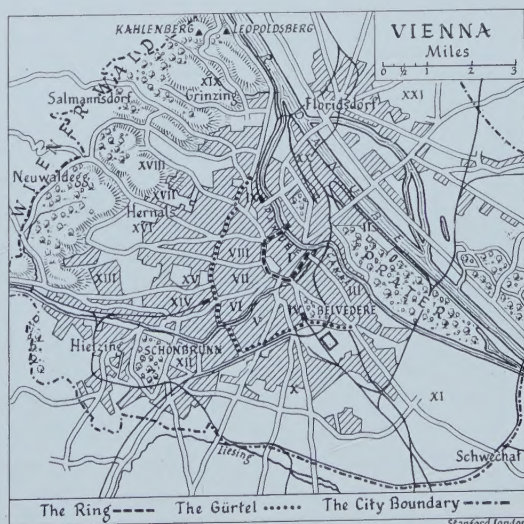
by JOHN LEHMANN

If ever a European Confederation came into being, Vienna would have an excellent claim to be its capital. Nowhere else have the three main streams of European culture—Mediterranean, Teutonic and Slavonic—met and fused into a living unity. The influence generated by that fusion will exert itself on the future political masters of Vienna, whoever they may be. Mr Lehmann, as he traces the city's evolution in this and a succeeding article, makes us vividly conscious of the forces that have moulded and still inspire one of the great centres of civilization

THE capital of Austria is not only one of the most beautiful, and most beautifully situated, cities in Europe; it is also an intensely interesting study in the way a city's story can be read in its bricks and mortar—or rather, in Vienna, its stones and cement. Consider the stages in its long and varied history: a Celtic settlement turned into a fortified garrison by the Romans on the edge of their Empire; a flourishing trade-centre in mediaeval and Renaissance times; the stronghold that stayed the advance of the Turks into Western Europe on two decisive occasions; the chosen city of the Habsburgs, developing, as their power increased and the Counter-Reformation triumphed, into a monument of aristocratic and priestly splendour; emerging triumphantly from the break-up of the Holy Roman Empire to be the capital of the rich, polyglot, Austro-Hungarian State; the centre of Europe after the defeat of Napoleon, reduced after the Great War to be the capital of a tiny mountain country of 6½ million inhabitants; the scene of huge revolutionary upheavals three times during the last hundred years; the first great city of the West to be ruled by a Socialist government with an unshakable parliamentary majority, now again, by another turn in the spiral of history, controlled by Metternich's spiritual successors and the powers of the Catholic Church. All these periods are reflected, not merely in separate buildings, but in the whole plan of the city.

If you look at a map of Vienna you will

see that the First District, the Inner Town, is enclosed by the horseshoe of the Ring, the series of broad, tree-planted boulevards that meet the Danube Canal at both ends and mark the line of the old fortifications. This tiny heart to the vast modern city stretching round it on all sides remained, up to the middle of the last century, still all there was officially of Vienna. It was separated from its suburbs not only by the city walls but also by the *glacis*, a wide belt of meadows used as military training-grounds and popular playing-fields. When, however, in the fifties and sixties of the last century, the fortifications were demolished and further districts incorporated, as the era of bourgeois expansion and prosperity opened, the *glacis* was rapidly built over, or converted into public parks. The customs barrier was then removed to the





Gürtel, the series of streets that form a roughly concentric semicircle outside the Ring. A friend has told me how she remembers, as a small child, helping her parents to smuggle country produce from the village of Hernals past the bored eye of the customs official on the western side. This, though not really so very long ago, sounds remote enough to a modern generation, for during the next half-century this demarcation too disappeared, as more and more suburbs merged with the city and were officially incorporated, including Grinzing and Neuwaldegg and other districts, which even today seem like little country towns or villages with a distinct individuality and life. By the time Vienna was separated from Lower Austria by the new Social Democratic government in 1920, and made a separate province among the federated provinces of Austria, it had a total extent of nearly 110 square miles and stretched from the last spurs of the Wiener Wald on the north and west, taking in the edge of the wide treeless plain beyond Floridsdorf on the further side of the Danube, to the outskirts of the village of Schwechat in the south-east—where

Metternich, it may be remembered, considered that Asia began.

The Stephansdom, the Cathedral that seems so essentially the ancient centre of Vienna now, was, in the period before the Habsburgs, actually outside the town. The oldest existing church is the Ruprechtskirche, in the Judengasse, which leads out of the square known as the Hoher Markt. This square was roughly the centre of the mediaeval (as well as of the Roman) city, and around it the early Viennese working population settled itself according to occupations, as the names of many little streets and corners show today: the cloth-workers in the Tuchlauben, the dyers in the Färbergasse, the nail-makers in the Naglergasse. The Wollzeile, further outside on the east, was the abode of the foreigners trading in wool. It was in the middle of the 12th century that the Babenbergs—the then rulers of Austria—removed from the Leopoldsberg, a wooded hill above the Danube, into the city itself and built their palace in what is now the beautiful Baroque square of Am Hof, where there had previously been a farmyard. Not far off, in the Freyung, a monastery for Scottish and Irish Benedictines was founded at the same time by Duke Henry II. The present Schottenkirche and Schottenstift, though much rebuilt since then, are among the loveliest religious buildings in Vienna. Duke Henry's choice of Scots and Irishmen was not, it must sadly be admitted, very happy. They proved to be extremely turbulent guests, indulged shamelessly in trading and sport to the horror of the pious, and finally had to be ejected by force.

By the time the Babenbergs had given place to the Bohemian kings, and they, in 1276, were succeeded by the first Habsburg Emperor, Rudolf the Founder, the earliest Romanesque version of the Stephansdom had been built, and the city walls extended to the position they were to hold right down to Franz Josef's reign. Of this original St Stephen's little or nothing survives,



Österreichische Lichtbildstelle

This view of Vienna in the 17th century shows how the Stephansdom, the cathedral, dominated Vienna in the days when the city clustered, for fear of the Turks, within its ring of fortifications



Österreichische Lichtbildstelle

And a modern air view shows how this 'Ring' is preserved in a horseshoe line of streets

as it was destroyed by fire in 1258. But in 1259 the rebuilding had already been started on the west façade, which remains almost purely Romanesque in an otherwise mainly Gothic building. The Gothic alterations and additions, begun in the first half of the 14th century, were not finished until the beginning of the 16th, owing to wars and financial difficulties. By that time Gothic had long ceased to be the reigning style. But in 1500 the church that dominates Vienna from the Stephansplatz even today, after all the splendours of Baroque and the formidable masses of Imperialist architecture have been added, was already lifting her long thin spire into the sky, visible from all the plains and hills



Österreichische Lichtbildstelle

Master Pilgram (1460-1515) was responsible for much of the late-Gothic work inside the Stephansdom. Below the pulpit a striking face peers out—a self-portrait of the sculptor

around, completing the graceful symmetry of the compact little town, as it can be seen in many old prints.

Apart from the Stephansdom, and one other church, St Maria am Gestade, there is scarcely another trace of Gothic in Vienna, and very little indeed of Renaissance: Vienna is supremely the city of Baroque. This is no chance occurrence, but the direct result of peculiar historical conditions. First of all, it must be remembered that Austria has been for centuries one of the strongest fortresses of Roman Catholicism. If Renaissance is the style that is characteristic of the Reformation, Baroque is the style of the Counter-Reformation, which advanced upon Austria after the Council of Trent in 1560, bringing with it the new ideas in architecture, and gradually established an almost undisputed ascendancy. In this connection it is interesting to note that, even today, of the 1,874,130 inhabitants of Vienna, 1,475,744 give their religion as Roman Catholicism. Secondly, Vienna's whole development has been conditioned by the fact that from the time of the first Habsburg to the end of the Great War, it was a *Court* city: the capital of the Holy Roman Empire as long as that strange and increasingly incoherent conception survived, and then of the Austro-Hungarian Empire. Its official name was Haupt- und -Residenz Stadt. All the Princes and Dukes and powerful courtiers, with their retinues of attendants, from the many lands of the Empire gathered here. Churches, palaces, and government offices dominated the town within the old walls; there was scarcely anyone living there who was not in some way connected with the Court.

It was a Court in whose ceremonial and manner of life Spanish influence had made itself deeply felt, a natural result of the original unity of the Spanish and Austrian Houses of Habsburg under Charles V, in the 16th century. An idea of the pomp of the gorgeous processions and festivals that characterized Court life can be had from



Österreichische Verkehrswerbung

The present Stephansdom, begun in 1259, is a remarkable mixture of Romanesque and Gothic



Österreichische Lichtbildstelle

The church of Maria am Gestade, erected in 1394-1414, is one of the few other examples of Gothic architecture in Vienna

hundreds of paintings and prints of the period. The other side to this Spanish influence, the elaborateness and stiffness of ceremonial, extending even to small details of social intercourse, though it was inimical to the easy-going Viennese temperament, and though at various times attempts were made to loosen its hold,

could still be observed, weakened but persistent, in Franz Josef's Court hundreds of years later in a totally changed world. In other directions, Italian was the predominant influence; Italian was the second language in aristocratic circles, and traces of Italian can still, and by no means rarely, be found in modern Viennese speech; the impress of Italy was on architecture, on painting, on literature, on cooking even; there was a large and powerful Italian colony of aristocrats, officials, priests, bankers, merchants, artists. Both these influences, Spanish and Italian, were encouraged as a direct counterpoise to French influence. Austria at that time was the great rival of France, and while the rest of aristocratic Europe lay under the spell of Louis XIV's Court in Paris, Vienna chose to underline and foster its difference and independence as a cosmopolitan centre of culture.

The third factor, which explains why it was precisely at the end of the 17th century that these other two factors came into full play in shaping Vienna, is the continual danger which threatened it from the Turks. No one cared to indulge in elaborate building schemes so long as these destroyers were hovering within striking distance. The first siege, under Sultan Soliman II, took place in 1529, but it was not until a century and a half had passed, in 1683, that after a second siege under Kara Mustapha the Turks were finally repulsed, and Western Christendom could breathe again.

A vast increase in the territories of the House of Habsburg outside the Empire followed the victory over the Turks. A series of successful campaigns ended in the addition of Hungary and Transylvania by the turn of the century, and within the next twenty years Habsburg arms had pushed a considerable way further down the Danube, conquering Slavonia and the Banat of Temesvar. Inside the Empire the territories comprising present-day Austria, with South Tirol, Trieste and the



Österreichische Verkehrswerbung

'... as one wanders through Old Vienna one is overwhelmed by the sudden beauty of cool, sculptured courtyards ...'



Österreichische Lichtbildstelle

On the Freyung ('Place of sanctuary') is the late-Renaissance Schottenkirche; an earlier monastic foundation had belonged to Scottish and Irish Benedictines



Österreichische Lichtbildstelle

Nearby, in Am Hof, the façade of the church of the Nine Choirs of Angels, built about 1663 in an Italianate style, heralds the great Baroque epoch of Viennese architectural history

Slovenian country south of the Drave, Bohemia, Moravia and Silesia came directly under Habsburg rule. Vienna was therefore not merely the capital of the Holy Roman Empire that stretched as far as Arras in the north-west, but also of an overlapping dynastic Empire whose frontiers already reached to the northern Dalmatian islands in the south, and in the east cut deep into the territories which form post-war Rumania.

Now began the great Baroque era, when the Inner Town acquired the splendour of architecture that characterizes it today. This style, one of Italy's most important gifts to Austria, is divided for the Viennese into three periods, Early Baroque, High Baroque and Late Baroque, the last of which is distinguished by a return to Graeco-Roman classical motifs. Rococo, the natural stage that follows Baroque elsewhere, is scarcely to be found at all in Vienna, a result perhaps of the late arrival of Baroque there. In Italy, Baroque had emerged as a style distinct from its parent Renaissance at about the end of the 17th century, that is, a century earlier. Baroque is essentially a worldly style, in which the gorgeous façade plays a most significant part. In High Baroque churches there is none of the spirituality of Gothic; everything is gay and sensuous, ornament flamboyant, recklessly realistic; brilliantly painted angels hang in mid-air, backed by stucco clouds, above gold-loaded altars that can sometimes only be compared with the most fantastic imaginable efforts of a pastry-cook for a royal wedding. In the earliest Early Baroque this theatrical, exuberant note is only faintly noticeable. It is an anonymous architecture, cautious, contenting itself with a few well-tried Italian patterns: the Counter-Reformation is still an undecided battle. But in High Baroque all is triumph and delight, for to consolidate its victory the Church had realized the necessity for making a popular, human appeal. Baroque repudiates the canons of taste, the restraint, the

reserve of colour in favour of line, that had governed the artistic work of the Renaissance, deriving from Graeco-Roman culture, and its wildest work is a tumult of colour, a riot of movement instantaneously frozen. Baroque architecture is also, as Viennese palaces and churches immediately reveal, a style working in an 'exterior room'. Again and again one finds in Europe a Gothic cathedral cluttered around with old houses coming right up to its walls, shapeless squares on which little wandering streets suddenly open. But



Österreichische Lichtbildstelle

In the Graben the surprising Pestsäule, an early and typically extravagant example of Viennese Baroque, commemorates the end of the Plague in 1679



Österreichische Verkehrswerbung

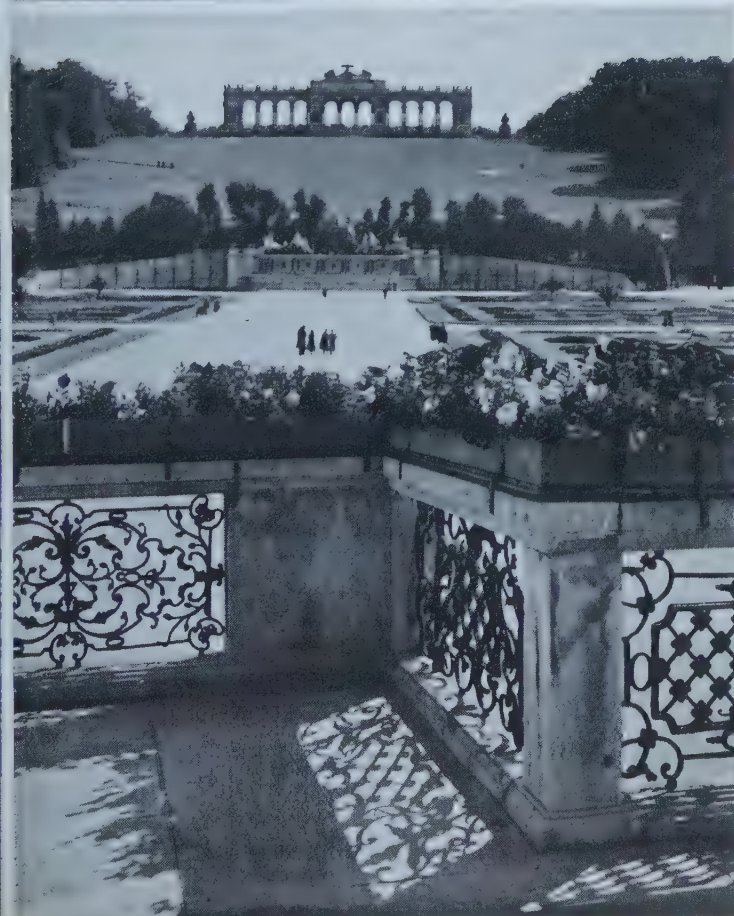
After the final defeat of the Turks in 1683, the great princes and nobles began to build themselves summer palaces outside Vienna. The Baroque style, with its worldly splendour, is a perfect mirror of the period. One of the grandest examples of this Baroque flowering is the Belvedere—the twin palaces built for Prince Eugene of Savoy, the famous military commander, between 1714 and 1723



Österreichische Verkehrswerbung



Österreichische Verkehrswerbung



Österreichische Verkehrswerbung

Equally impressive is the Schönbrunn Palace, the former Imperial seat, which was begun in 1696 to the designs of Fischer von Erlach—one of Viennese Baroque's greatest exponents—but not completed until the days of Maria Theresa. From the top of the 'Gloriette'—a large colonnade built in 1775—which faces it, one surveys the whole Schönbrunn Park and the hills of the Wiener Wald



Österreichische Verkehrswerbung

(Above) Much of the beauty of Schönbrunn lies in its French landscape gardening with severely trimmed hedges and straight walks. From this 'Schöner Brunnen' ('Beautiful Fountain') by Beyer, the place derives its name

(Below) The Messepalast, once the Royal Stables, is another of Fischer von Erlach's works, built in 1723-25. In the foreground is the 19th-century Maria Theresa Monument

Österreichische Verkehrswerbung and Lichtbildstelle



The most daring creation of Fischer von Erlach's genius is the Karlskirche in the Karlsplatz, which was begun in 1716 and completed by his son in 1737. Two columns, built after the style of Trajan's Column in Rome, are incorporated into the design of the façade



Martin Hürlimann

Österreichische Verkehrswerbung



Prince Eugene's winter palace within the city is in the Himmelfortgasse and is now the Ministry of Finance. Built partly by Fischer von Erlach and partly by Lucas von Hildebrand—the other great name in Viennese Baroque—it affords an example of their work when restricted by the conditions of the Inner Town

the supreme Baroque palace or church is placed at the most advantageous point for all to see and admire, and is surrounded by carefully designed levels and gardens or open spaces: it is only the centre of a larger design.

Before the victory over the Turks, buildings of the Early Baroque had already appeared, notably the lovely little Franciscan church, the Jesuit and Dominican churches, and Leopold's wing of the Hofburg. But when the Turks were gone all the nobles began to build themselves magnificent palaces, and outside the city walls equally magnificent summer residences. The greatest and most famous of these is, of course, the Habsburg Palace of Schönbrunn, which lies in what is now the XIIIth district, Hietzing. Fischer von Erlach, who shares with Lucas von Hildebrand the honours of Viennese Baroque, was the architect of this crowning beauty of all the Baroque periods. After 1700, for fifty years the High Baroque style flourished. Its most imposing monuments are Prince Eugene's Summer Palace of the Belvedere, from the high ground of which the loveliest view of Vienna can be had with the hills of Kahlenberg and Leopoldsberg as a background, the Court Library on the Josefsplatz, the Trautson Palace in the Museumstrasse, known as the 'Ungarische Garde', the Imperial Chancellery in the Hofburg, and the fantastic Karlskirche in the Karlsplatz, with its two Trajan columns incorporated with almost miraculous success into the design of the western front. But scattered all through the Inner Town and the districts immediately outside there are exuberantly decorated churches, wonderful palaces and merchants' houses: as one wanders through the narrow, winding streets one is overwhelmed by the richness of the façades, by the sudden beauty of cool, sculptured courtyards of which one catches now and then a glimpse through open gates.

Take one of the main thoroughfares of the Inner Town, the Herrengasse. As one

comes down from the Freyung towards the Hofburg, on the right-hand side of the street, one sees palace after palace, each with its own subtle variation of style: the Kinsky Palace, the Trautmannsdorf Palace, the Lower Austrian Landhaus, part of the interior of which dates back to the 16th century, the pretty little Baroque palace which is now the Lower Austrian Museum, the Modena Palace and the Wilczek Palace. Both these latter two have been influenced by Empire style inside, as have certain wings of Schönbrunn and of the Hofburg, though there is comparatively little trace of Napoleon in the outer appearance of the city. In the Wallnerstrasse just behind, on the opposite side, there is yet another row of palaces, with exquisite and varied façade decoration: the Esterhazy Palace in particular, and the palace further down which is now the British Consulate. And between these two streets, where once the gigantic Liechtenstein Palace stood, now rises Vienna's first, post-war skyscraper—the Hochhaus: ancient stares at modern across a few feet of asphalt.

On the same side of the Herrengasse as the Hochhaus there are also some of the most famous coffee-houses in a city of coffee-houses, the Café Herrenhof and the Café Central. (It was in the latter, just before the war, that Trotsky was to be seen playing chess every night.) Coffee-house life is the very centre of the Viennese citizen's world, where business, love-making, letter-writing, poetry-writing, philosophical discussion, gossip, political scheming, is all carried on over a cup of black coffee and an unending series of glasses of water. It was from their enemies, the Turks, that the Viennese acquired their taste for coffee. The first coffee-house, so many generations ago, was such a success that it was not long before dozens more were started, until today one can hardly walk a hundred yards anywhere in Vienna without coming across two or three.

If the Hochhaus is the first skyscraper

Vienna is as justly renowned for its musicians as for its architecture. This was Johann Strauss' home in Salmansdorf



Österreichische Verkehrswerbung

In the XIXth district and in the street called (after his famous symphony) the Eroica-gasse, is Beethoven's house



Österreichische Verkehrswerbung

And in the IXth district is the house where Franz Schubert was born in 1797. It is now used as a Schubert museum



proper (and a New Yorker would no doubt scorn to give it the name), the tendency in Vienna has been for many centuries towards continually higher building. In 1566 there were 1205 houses in the Inner Town, but only one of them had more than three storeys. In 1800 the total number of houses had only increased to 1312, but there were then 376 with four storeys and more. At that time, just before Napoleon was to occupy Vienna and leave his eagles (still undisturbed) over the gates of Schönbrunn, there were about 232,000 inhabitants. The great leap in population was to come at the end of the 19th century, when the suburbs, which had in fact been merging with the old city for many years, were legally incorporated in it.

The Vienna, then, which the delegates of Europe were to see at the time of the Congress of Vienna was a feudal city neatly enclosed within its ancient walls, a city crowded with beautiful churches and luxurious palaces, rich with all the pomp and magnificence of the ruling class of a huge Empire. Its streets were cobbled and lamplit. In the back parts of the grand houses and the narrower alleys the poorer craftsmen and labourers lived, and wretchedly enough, but the main bulk of the working population, which was to form the future industrial proletariat, lived in the village suburbs, across the meadows of the *glacis*. In the further villages beyond the 'Ramparts' (the present Gürtel), which

are all now part of what was, up to a couple of years ago, the federal province of Vienna, lived then a population of small-holders, vine-cultivators, and petty burghers. Here the charming, low, buff-walled cottages of the period can still be seen in many streets, some famous for having housed musical celebrities—for it was just at this time that Vienna acquired its great reputation as a centre of music, while the diplomats and statesmen gathered to applaud Beethoven's concerts and dance interminably to the strains of the waltzes which were to make the names of Lanner and Johann Strauss world-famous. Beyond the city walls on the north-east, between the Danube Canal and the Danube, the wide meadows of the Prater, formerly an Imperial hunting preserve, had, a few decades before, been thrown open to the public by Joseph II, and had already become an extremely popular playground. If Vienna was in theory a German capital, the centralising force of the Habsburg rule had already filled it with Czechs, Poles, Croats, Slovenes, Magyars, Jews, Italians. National aspirations were stirring, and the ideas of the French Revolution had left a mark which Metternich, as Imperial Chancellor, now set himself the task of obliterating by his all-pervading police-system; an attempt which nevertheless was finally to cause the savage disturbances which swept Metternich himself away in the next phase of the city's history.



All photographs by Martin Hürlimann

The Emperor Joseph I, under whom Prince Eugene served, with Marlborough, against the French



The garden front of the Lower Belvedere—Prince Eugene's summer palace in Vienna



‘The Apotheosis of Prince Eugene’—a marble group by Permoser in the Lower Belvedere



An allegorical trophy in the Lower Belvedere, celebrating Prince Eugene's military exploits



The south gate of the Upper Belvedere, built for Prince Eugene by Lucas von Hildebrand



The entrance hall in the Upper Belvedere



The Grand Staircase—a Baroque masterpiece



The Gold Room in the Lower Belvedere, Prince Eugene's bedroom, where he died in 1736

The Road to Hunza

by E. O. LORIMER

Colonel Lorimer's researches into less-known oriental languages have won him a European reputation as a scholar. A Leverhulme Research Fellowship recently enabled him to return to a former field of service and complete his study of Hunza and its unique language, Burushaski, between which and other forms of human speech no relationship has yet been established. Mrs Lorimer, who has accompanied her husband's many travels, describes in her present article the journey to and the main features of this remote little state: in a further article she will deal in detail with the life and customs of its inhabitants

WHERE the territories of Afghanistan, British India and Chinese Turkestan meet, among the lofty and inhospitable ranges of the Karakoram, the little state of Hunza guards the extreme north-west of India's frontier, straddling the Great North Road that links Kashgar in Central Asia with Kashmir. It is one of the seven provinces and states which together comprise the Gilgit Agency, and we first made its acquaintance in November 1920, when my husband took up his duties as Political Agent, Gilgit, and made it his first business to get out on tour to the twin states of Hunza and Nagir before winter laid its icy hand upon them.

The approach to Hunza from India is up the Gilgit Road, which was of course not in existence at the time of the minor but historic campaign of 1891, well known through Durand's classic account of *The Making of a Frontier*. Its construction was one of the first tasks insisted on by Lord Roberts when summoned to Kashmir to undertake the reform of the Kashmir army. Prior to this, the provisioning of the Kashmir troops posted in Gilgit to prevent the highland raiders from plundering caravans and raiding Kashmir territory had entailed incredible hardship on the hapless coolies impressed. Contemporary accounts of their sufferings are harrowing. No provision was made for their shelter, either from the bitter cold of the passes or the deadly heat of the Indus Valley, and many perished yearly, blinded by blizzards on the trackless Tragbal or buried by avalanches on the Burzil, at-

tacked by plague, smallpox or cholera in their insanitary camps by the Indus, or swept to destruction as they tried to cross its murderous flood on rafts. A man condemned to carry a load to Gilgit was then mourned by his village and his friends as one sentenced to death. If he survived the journey he was not infrequently seized on arrival and sold into slavery. Probably no *via dolorosa* in history has seen more human misery. Nowadays the traveller Gilgit-bound is surrounded by eager pony-men clamouring for his loads, sure of fair pay, of shelter at Government rest-houses, of a well-kept bridle track and great steel suspension bridges across the rivers. This is not, however, to imply that the journey





Hunza lies on the 'road' that leads from Kashmir over 15,000-foot passes, skirting Afghan and Soviet territory, to Kashgar in Chinese Turkestan. Looking back as one mounts towards the Burzil Pass (13,775 feet) which forms the watershed dividing Kashmir proper from the Gilgit Agency

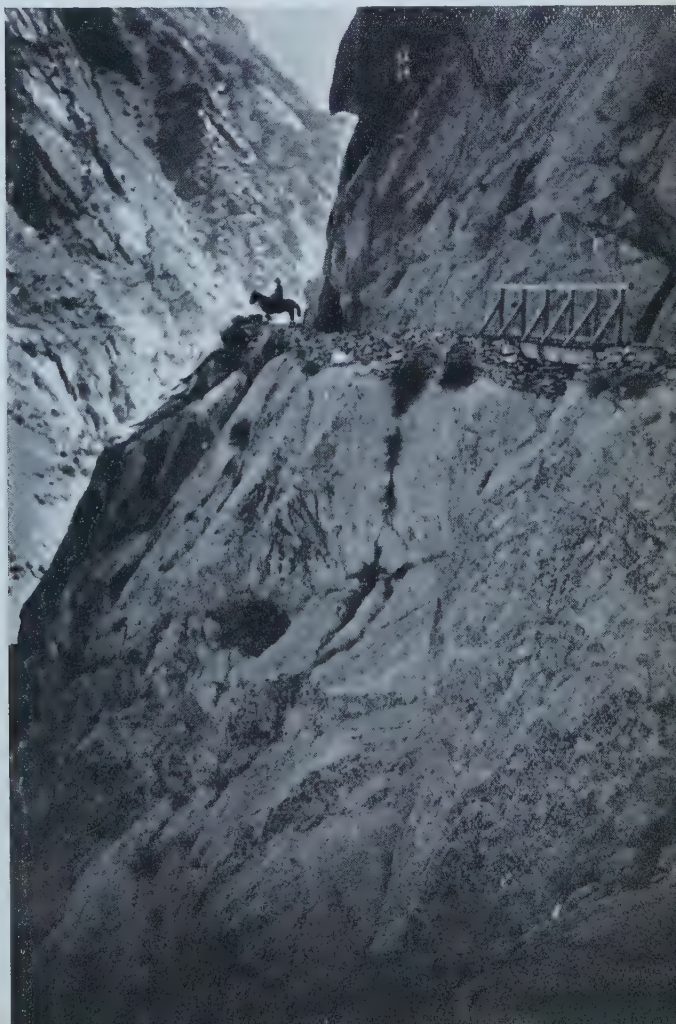
The journey to Hunza used to involve incredible hardship. Since the building of the Gilgit Road at the end of the last century, however, a good bridle track and Government rest-houses simplify travel. This is the last rest-house before the summit of the Burzil

All photographs by E. O. Lorimer





In winter snow lies 40 feet deep on the Burzil Pass, and its passage, forbidden during seven months to ordinary travellers, is braved only by the post-runners, for whom special emergency shelters are built. By June the long legs of these shelters are exposed



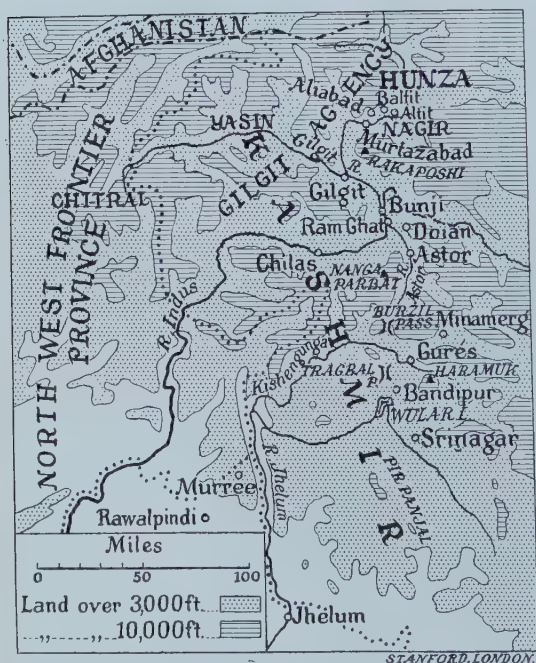
In many places the Gilgit Road has to be carried round cliffs on galleries of stones and brushwood, resting on pegs driven into the rock. 800 feet below this precarious section of the road the Astor River is roaring its way down to the Indus

is even yet wholly luxurious or without incidental risks.

For seven months of the year the two formidable passes of 12,500 and 13,775 feet are deep in snow—40 feet on the Burzil—and the road is closed to animal transport, though plucky local postal runners relay the mails across on foot daily, with rare interruptions in exceptionally bad weather. But even during the five summer months when the road is officially 'open', the sudden changes of altitude and climate in the course of one day's march and the changes of weather, make the journey always something of a gambling adventure, and we returned after ten years of retirement, to face it for the fifth time, with full appreciation of the fact that we were not so young as aforetime and that it behoved us to avoid unnecessary hardships if our mission to Hunza was to prosper. We reached Srinagar, the capital of Kashmir, in the beginning of April, having started thus early both to avoid the heat of India and the incidence of income tax at home, and settled into houseboat life on the Jhelum to wait for the melting of the snows. By

great good fortune we had been able to pick up some Hunza men in Bombay who were anxious to return after having paid their respects and their annual tribute to the Agha Khan, the spiritual head of the Ismaili or Maulai sect of Islam. Whatever the original religion of the Hunzukuts, they were converted to the Shi'a variety of Mohammedanism some three hundred years ago, a faith which their Nagir neighbours still profess; but about three generations back they adopted the Ismaili 'heresy'. Our enforced halt in Kashmir was turned to good advantage and our little boat hummed daily to the sounds of Burushaski as we made our first laborious efforts to acquire colloquial ease in that most fascinating but most difficult of vernaculars. Meantime we quietly gathered necessary camp kit, negotiated for transport, and added to our retinue a camp cook, whose primary qualification for the post was that he was a Hunza Burushaski-speaker and secondarily that he had served as cook's mate in a Rawalpindi hotel for four months. He did not claim to be a chef, but surmised that he could 'carry on'. He did: it was we who nearly perished.

At last by mid-June our kind friend the Srinagar Telegraph Master ascertained by telephone from Minamerg, the last telegraph station on the Kashmir side of the Burzil, that the pass was 'clear of snow' on the southern side, and we set out. We drifted down the Jhelum and across the Wular Lake by boat and assembled our caravan at Bandipur, rejoicing in the freedom from all official responsibilities, though well aware that as ordinary, wholly unimportant travellers we should miss many of the luxuries of travel to which the Political Agent is accustomed. The first of these are good riding ponies. These would have meant initial outlay, besides extra men and fodder; and rigid economy had to be the keynote of our adventure. Military pensions are—most justly—not calculated on a scale to finance scientific expeditions, and not a penny





(Above) Partab Pul bridge across the Indus. These steel bridges make the ride to Hunza much less hazardous than in the days of the historic campaign of 1891-92, when rafts had to be used

(Below) The junction of the Gilgit (left) and Indus rivers



of the Leverhulme Research Fellowship which had made our journey feasible was going to be squandered on personal comfort. So we simply selected the two best of the pack ponies to serve as hacks. This added gravely to the fatigue of each day's march. Nothing would induce our steady but uninspired mounts to vary the plod-plodding two and a half miles an hour to which they were accustomed, and this meant that a twenty-mile stretch of road which we were wont to cover easily in three hours and a half would take us eight. Everyone knows that it is not the distance ridden but the number of hours in the saddle that measures the fatigue of a day's trek, and sometimes as the cold bit through our wraps, or we raced the relentless rising of the sun, we regretted the paces of Mohawk and Black Beauty who had so gallantly carried us of old.

At last the loads were sorted, allotted and lashed up, and we embarked on the 200-mile preliminary ride to Gilgit. It was a glorious day of radiant sun and we gladly left the mud-flats of Bandipur behind us and climbed circuitously through shady, perfumed pines the 8000 feet to the Tragbal rest-house. Looking back as we mounted the hillside, we could see the whole fertile Kashmir plain outspread below us like a patchwork quilt in pastel colourings, silver-seamed by innumerable waterways and dotted by dark green clumps of the magnificent *chenār* trees that Kashmir owes to her Moghul conquerors. All the far horizon was enclosed by the jagged, snow-clad peaks of the Pir Panjal, the mighty range that separates Kashmir from the torrid plains of the Punjab. This middle and further distance formed a delicate study in water-colour under a pale blue sky, while the immediate foreground was a contrast in strong oils: spur after spur of pine-fledged ridges plunging abruptly into the plain like giant cliffs guarding a wide sea-coast. Next day we rode up and ever upwards, still through pine forest, till we emerged on the great exposed

plateau of the Tragbal itself, commanding a matchless panorama to north and west and east, of crowded, snow-crowned peaks, conspicuous amongst them the sharp twin teeth of Haramuk. Even on such a perfect day of summer it was easy to realize how deadly this wide, smooth plateau can be to bewildered travellers in mist or driving snow. A long, slow descent over grassy slopes led us to the wooded banks of the river, where our next rest-house nestled amongst pines at the junction of two mountain torrents.

The next day took us through the loveliest stretch of river and wooded-hill country that even the Kishengunga can offer and we gave ourselves up to the delight of the march. Happily a day's halt was due in Gurés. After a welcome rest we started out once more on the uphill path that ultimately leads over the Burzil Pass into Gilgit territory. As we rose and rose for the next two days, through scenery that grew wilder and bleaker and grander at every step, and as we noted the snow on the slopes above us and the frozen torrents that seamed the sparser woods on our right, our faith in the telephonist from Minamerg grew steadily less. We turned the last corner and saw the line of the Burzil high above us—with snow stretching right down to the last rest-house some 2500 feet below the pass. This was a blow. We climbed pensively the steep slope to the bungalow and took counsel of its lonely guardian. There could be no question of waiting for the pass to clear; it was obvious that three weeks would not suffice, and on these journeys a travelling party hopes at most for one day's supplies for man and beast at any halting-place. Expert opinion tallied with our own: by day the hot sun would make the snow impossible; there was nothing for it but to cross by night. We lay down to woo in vain some prophylactic sleep.

At half-past ten we dressed warmly and ate a most unholy 'breakfast' concocted by the cook, then at midnight broke camp, mounted our ponies and started out in

inky darkness—the moon had just set—brightened only by the faintly starlit snow. Our hopes of riding lasted about 200 yards; we dismounted to tackle the job on foot. The normal well-graded zigzag track over which we had ridden four times before was of course indiscernible, and what was probably the easiest route had to be improvised by the combined experience of my husband and the trusty Hunzukuts. Our start was from about 11,500 feet. We plodded up and up, one hurricane lantern lighting our immediate steps but blindingly obscuring larger issues; now we turned left to avoid too steep a rise, now hastily swung right to avoid an involuntary slide down invisible slopes where we could hear the torrent roaring below its crust of ice and snow.

By day the melting snow had cut steep furrows for itself that ran at an angle to our course and made progress infinitely laborious. I had just about reached the end of my tether when shortly below the summit of the pass a large furrow happily lay directly parallel with our route; a reluctant pony was induced to walk therein and let me ride the last hundred feet or so. Finally, just as dawn was breaking, greeted by a glad burst of song from a solitary tiny bird, we reached the crest, the three-mile crow-flight having taken us five long hours. Eight feet of snow lay round the hut. The sun's daytime heat, echoed from the walls, had melted a wide steep-sided moat and it stood there in comic isolation. The snow landscape in the dawning light was incomparably lovely but tantalizing to a



The Political Agent's house at Gilgit, India's most northerly administrative post: taken in March, when apricot blossoms challenge winds from the snow-clad heights



The honoured visitor to Hunza will be welcomed by a band of Bericho musicians—racially distinct from the ordinary Hunzukuts—without whose playing no ceremony is complete

photographer. An hour's halt and some warmish Thermos tea refreshed us and the growing warmth warned us to be gone before the snows below had softened. We walked and slithered down the easier slopes of the northern side, then came into a horrid area of melting snow, marsh and icy water till some seven miles from our goal we were able to mount and ride again. It was a memorable night.

After the fertility of the wooded Kashmir valleys the bleak grandeur of the first Gilgit marches was doubly impressive. Just before we turned into the Astor valley we had our first glimpse of the heights of Nanga Parbat, but before cameras could be snatched from knapsacks she had swathed herself again, as she loves to do, in veils of flying cloud.

The next marches were tiring, for the road dips from its average level of 9000

feet or so right down to the river-bed below and up again. Then came a well-remembered mile or two through a belt of shady forest, the last sight of natural vegetation we were to see for many a day, and we were out again on the bare mountain-side. From the crest above Doian, a tiny settlement of small fields clinging incredibly to precipitous rocks, we looked down into the desolation of the Indus Valley. Immense mountains in every direction, folding, projecting, retreating, hem in the plain below, their browns and chromes, sepias and khakis indistinguishable from the colour of the boulder-strewn sands of the plain, and they again from the muddy flood of the Indus between its steep earthen banks. And for all the miles the eye can see, there is not one blade of grass, not one tree, not one human habitation, no sign of man or bird or beast.

Aliabad is one of the most considerable of the inhabited oases which constitute Hunza. In earlier times the villagers crowded, for protection, into their walled forts. (Above) The last remaining of Aliabad's twelve beacon towers. (Below) The open space 'at the Gate', showing the old mosque, the new Meeting House and the communal watering-pond





Looking back down the Hunza River to its junction with the Nagir River from above Baltit

From the fresh air of the heights a ten-mile ride, to cover a distance of perhaps three miles, brings the traveller down into the stifling heat of the plain; the road now interminably criss-crosses the steep mountain-face where it seems impossible that a road can cling, now skirts along a rock shelf where the cliff falls sheer 800 feet to the river below, whose very silence adds awe to the sense of height, then zigzags down again to the deafening roar with which the Astor plunges through the Ram Ghat defile to fling itself into the Indus. We had started this grim ride at midnight also, for the torrent of the Devil's Gorge just beyond Ram Ghat had carried away its wooden bridge and the theory ran that the only time of the day when fording was possible was just after dawn. We got there in time and were ourselves just able

to ride across and watch with anxiety while the sturdy pony-men, ably seconded by the untiring Hunzukuts, posted themselves on boulder points of vantage amidst the raging water and skilfully piloted the laden animals, handing them from one man to the next. At last, after two hours of struggle, the crossing was safely accomplished, and there remained only seven miles of red-hot riding over burning rocks and stones and sands of level plain to the thrice-accursed oasis of Bunji: one of the foretastes of Hell on earth. Midnight saw us again quitting Bunji by a treacherous moon through a desolate waste of rocks and sand, shut in on both sides by giant hills whose stone surfaces breathed out with interest the heat absorbed by day, and the hot air throbbed against our cheeks like the blast from a baker's oven. With



A 600-year-old fort dominates Baltit, the capital of Hunza, impregnable on a crest between two steep gorges. Mountains behind rise to 23,000 feet



Baltit's sister fort of Altit, showing the unscalable precipice which defended it against raiding enemies. Both forts are still used for ancient ceremonies connected with seed-time and harvest

the ill-luck which for the first time dogged our travels we had walked into an unprecedented heat wave (and Bunji, even when unprecedentedly cool, is hot enough). The worst of night marching is that you can get little sleep by day in a sun-steeped rest-house thronged by flies (despite the wire doors). On the next two marches there are many rock shelves that rise and fall in flights of hairpin bends where a false step at any turning will plunge horse and rider 50 or 100 or 200 feet into a rocky ravine. These by day require careful riding and in quivering moonlight with its inky shadows, when the eye can scarcely distinguish the narrow path from the river far below, they strain the tired attention almost to breaking point. In Gilgit old retainers gave us a royal welcome and we snatched a few days' rest there before tackling the remaining 64 miles to Hunza, but a temperature

of 105° in the shade and an abundance of sandflies made the halt one of doubtful pleasure. Finally we left the rich green fields, the willow-lined avenues, the English gardens of Gilgit not unwillingly behind, passed the new aerodrome on a jutting promontory at the junction of the Gilgit and Hunza-Nagir rivers, and turned north into the great barren gorges that lead to our destination.

After the first march the scenery gains in grandeur and shakes off the suggestion of wasteful, wanton desolation that haunts the Indus marches. High above the rocky river bed the alluvial fans are dotted by the green oases of Nagir, watered by the inexhaustible glaciers of Rakaposhi. The road triumphantly grazes the face of nightmare precipices, often carried on revetting galleries of stones and branches and on tiny wooden bridges pegged into



From the top of Altit fort are seen the flat roofs of Altit village huddled for safety within the walls. Nowadays the peasants live secure in scattered farmsteads among their fields



Hunza is ruled by its hereditary Mir, Sir Mohammed Nazim Khan, here seen reclining out of doors and enjoying the magnificent view up-river towards his Altit fort

the rock face, and at length passes from the relative fertility of Nagir into the sterner, sun-scorched Hunza country. The Hunza mountains are savagely bare and the water-starved oases few. Passing Murta-zabad, where we were met by two of the Mir's grandsons, another four miles of steep riding leads into the most spacious stretch of Hunza cultivation—a belt some three miles long and one mile deep of gardens, terraced fields and groups of houses—that is Aliabad, which was to be the headquarters of our modest expedition. Here we found the Mir's eldest son and heir awaiting us. His band struck up the 'welcome' tune as we slowly wound up the hill and he stepped out to meet us and escort us to the rest-house that was to be our home for the next fourteen months. It was delightful to see this old friend, Prince Ghazan Khan again and to feel that we had really arrived.

In the bad old days before the Pax Britannica brought peace to the Agency, the states of Hunza and Nagir, Yasin and Chitral, and all their neighbours, lived in a constant ferment of warfare, raiding and counter-raiding. In such conditions the population were forced to cluster with their goods and chattels, their stores of grain and livestock, in hovels tight-packed round a central fort and encircled by a wall. The old forts of Altit and Baltit, the capital, still stand perched on the brink of unscalable cliffs, and must in their fighting days have been impregnable. Both date from 600 or 700 years ago when they were built as dowry for a princess of Baltistan on her marriage with the then Mir of Hunza, ancestor of the present royal house. These two most interesting and picturesque old castles are still the centre of the ancient ceremonies that celebrate the Barley Seed Sowing and the beginning of the Barley

Harvest. There are no less than five great public festivals still maintained which punctuate the Hunza year with tournaments of polo and mounted archery, dancing and merry-making; but these deserve a treatment to themselves. Even a relatively recent settlement like Aliabad, founded only one hundred years ago, had its fort and walls with twelve beacon towers—only one of which still remains standing—from the roof of which the red glare of bonfires gave warning up and down the river of approaching raiders. But nowadays the Hunza peasant builds his farmstead in the open amongst his fields and orchards, and the Aliabad Fort is uninhabited except in winter, when a few conservative families return to their 'town houses', probably from a desire for greater warmth and company during the short imprisonment of winter. Communal dancing, wedding festivals and the like still take

place, however, in the open space 'at the Gate' of the old fort.

For forty-three years our trusty friend and faithful ally, Sir Mohammed Nazim Khan, Mir of Hunza, has kept this gate of India for us, ruling his people, some 14,000 of them, with firmness and wisdom and understanding kindness. He is probably the most absolute monarch left on earth, but the smiling faces of his people, the proud dignity of their bearing, the outspoken freedom of their speech in private conversation or in public assembly, give the lie to tales of tyranny and oppression which occasionally titillate the ears of scandal-scavenging travellers. In a country with no police, no prisons, no penal code but traditional custom, prompt action may at moments be the only protection of the community, and the community thankfully recognize that they owe to the character and personality of this fine



The view seen by the Mir. The terraced cultivation is typical of all the Karakoram country, where rain is rare and irrigation on the steep mountain-sides involves elaborate revetment of the fields



The Mir's heir is his eldest son, Prince Ghazan Khan, seen in camp kit setting out for Gilgit to take up his duties as Subadar Major of the Hunza section of the Gilgit Scouts

old man the sense of perfect security that permits them to live in their isolated farms, dotted about in twos and threes, without even a watchdog. It is their boast that in the forty-three years of his reign there have been only two murders on Hunza soil and that thefts are practically unknown. Even quarrels over inheritance, water-rights, trespass or the like, are extremely rare; for the Hunzukuts are the least 'oriental' of all Eastern peoples and are temperamentally—as in appearance—closely akin to ourselves: not intellectual, nor visionary, nor fanatical, nor artistically gifted, but rich in the saving virtues of tolerance, common sense, readiness to compromise, and with a natural skill in self-government. When a dispute arises between neighbours, the two families come together in public and thrash out their difference. If no solution

is thus reached—and it usually is—the local headmen of the two clans involved are drawn in and the matter is publicly discussed once more. If that should fail, a larger group is summoned and a further public séance follows 'at the Gate'. Seven such ever-widening courts of arbitration—to give them too grandiloquent a title—must fail before the case is brought to the Mir's attention. He takes his seat under the verandah of an open courtyard outside his palace, surrounded by his sons, his grandsons, wazirs, headmen and elders, and once more the matter is publicly rehearsed, every person in the audience having perfect freedom to adduce facts or offer suggestions. Having thoroughly sounded public opinion, the Mir brings to bear his own accumulated experience, his unrivalled knowledge of custom and



The eldest son of Prince Ghazan Khan and heir after his father. He is in European dress but retains the native homespun cap, characteristic of the country. He reads and writes both Hindustani and English and is his grandfather's understudy in business matters



Prince Shah Khan, aged about twelve, one of the younger sons of the Mir by his 'Middle Queen' and brother of Prince Ghazan Khan. He rides about the country on his small pony with a bodyguard of retainers of his own age



Two small princesses, daughters of the Mir by his third royal consort, with their pet pup

tradition, of the characters of the parties, whose parents and grandparents will be known to him, of the lie of every water channel, which he will have seen dug, of the age of every apricot tree, whose planting he will remember, and gives his judgment from which there is no appeal. The winner of the case pays a fixed tribute of one ram or he-goat. There is here no rigid codified law, no suborned witness—for who would perjure himself before neighbours who would know and despise him for a liar?—no one to bribe, and no lawyer to confuse a straight issue with his quibbles. Long may it be before formal law courts supersede a system of justice so admirably

suited to a small country and a simple people.

The Mir's main revenue comes from the royal lands, of which there are some in every settlement. In olden days these were worked by forced labour and the stewards in charge of them grew fat on the oppression they could apply to the peasant and on the produce they could divert from the royal granaries. But early in his reign the present Mir abolished this evil system and retained direct control only of such lands as could be worked under his personal supervision near his capital. All his other property he leases out at a low fixed rent in kind, and any tenant who finds the bargain burdensome can step out and hand over to another. This reform has made for great content; the royal lands are eagerly taken up and the steward's power for ill exists no longer. We found it significant that the only man in Aliabad whom his neighbours accounted 'rich' (he possessed some hundred head of mixed cattle against the 20–24 of the average household) still bore by courtesy his father's title of 'Steward'.

The soil is poor, water and manure are scarce, but at least taxes are practically non-existent. There is no land tax, no income tax; a few light fees—ludicrously light by any European standard—are levied on marriages and divorces, on mills and looms, and a very occasional all-round levy may be asked to meet unusual expenditure, but in such cases the one-man house, the poor man's house and the orphan's house are exempt. All such levies, moreover, are more than expended on public feasting from which all benefit alike. As regards the cost of his most admirable government, the Hunza peasant may fairly be considered about the most fortunate freeholder on earth.

Some Ceremonies at Seoul

by G. V. HETT

BUDDHISM and Confucianism, the two chief cults of Korea, were introduced there early in the Christian era, and both flourished in this Sinophil country: though neither cult swept the country, for the people were always curious rather than devout, each enjoyed its period of popularity and neither succeeded in displacing Pantheism and Shamanism. The majority of Koreans have always referred their troubles to local spirits in times of difficulty.

Buddhism was first introduced and was the first to flourish, being adopted as the state religion in the 6th century and reaching its height during the Koryu Dynasty. The story of the fall of Buddhism in Korea is similar to that of other countries where a mystic religion has risen to obtain too great a temporal power: the priests controlled the throne and became corrupt in their power, and when the Koryu Dynasty fell, at the end of the 14th century, they were banished from the cities, their temples were destroyed and they were suffered to continue only in their mountain monasteries. Only in 1902 were the laws

against the priests repealed by the last king and some measure of vitality restored to it.

Last autumn, after watching the Buddhist service to commemorate the Japanese earthquake of 1923, I had the opportunity of witnessing the Autumn Festival of the sacrifice to the spirits of Confucius and his disciples, which is held twice yearly. There is no doubt as to which is the most popular of the two cults in Korea. Confucianism replaced Buddhism on the latter's decline and supplied the need for formal religious expression, while the despised Shamanism was practised secretly in times of need. Today the Confucian ceremonies are well attended by both Japanese and Koreans.

The temple of Confucius is placed low down within the confines of Seoul. The buildings are surrounded by trees, and the temple itself stands at one end of a quadrangle, the sides of which are flanked by long, low buildings, and the end terminated by a wall. In the open courtyard grows a venerable Gingko tree, the giant maidenhair fern surviving from forests of the Mesozoic Age and not now known to exist in a wild state, which is reputed to owe its survival only to having been preserved within these eastern temples.

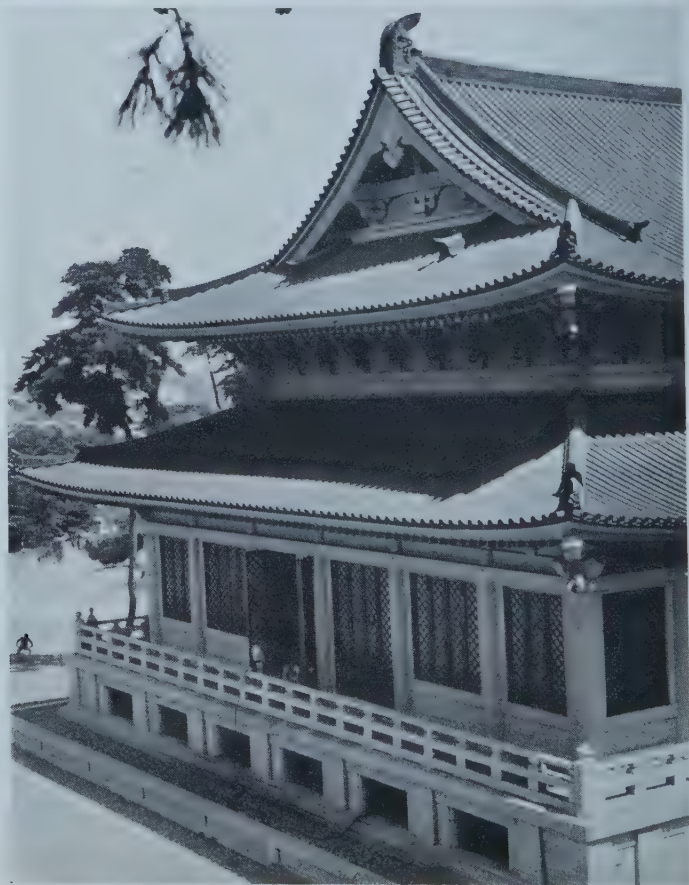
On this occasion the main bulk of the courtyard was filled with chairs for the audience and participators, for they could scarcely be called worshippers. In the front rows sat prominent Japanese, who were all dressed in morning-coats as a sign of their importance and distinction: behind them sat the white-clad Korean men, while the women were bunched together in the rear. The orchestra was divided into four parts, two of which lay behind the audience and two on either side of the raised terrace before the temple. The dancers, who wore red robes and high yellow hats, were about sixty in number,





All photographs by G. V. Hett

Buddhism and Confucianism have long existed side by side in Korea, but Buddhism gradually fell into disrepute, and in Seoul the Buddhist temples were removed from the city itself to the slopes of the encircling hills. The principal Buddhist temple, here seen, commands a wide view over the capital





In the grounds of the chief Confucian temple of Seoul, situated inside the city. Connected with the practice of Confucianism is the use of resonant stones: these carefully shaped pieces of jade, struck with another stone, form part of the orchestra that accompanies the temple ceremonies



Women, dressed in the traditional white Korean costume, in the courtyard of the Confucian temple on the occasion of the Autumn Festival. They are segregated, sitting in seats at the back, and are not allowed in the temple itself



Four orchestras take part in the ceremony. Seated on round mats, the musicians strike their sets of bronze bells and beat their drums on the steps of the temple and in the courtyard. On the table in the right foreground above is a brass bowl for the participants' ceremonial washing



A band of ceremonial dancers is drawn up before the temple: holding sticks in their hands they trace characters in the air. Behind may be seen a Gingko tree, which is a feature of these temples



The performance finished, the congregation proceeds to the temple for the sacrifice. The elders or teachers go first, followed by Japanese officials—the rulers of Korea—who wear European clothes



Behind a further detachment of elders comes a group of important Koreans wearing their best hats—high affairs of net-work—and the universal Korean white habit



and stood in a square in the centre and forefront of the audience. These dancers were Confucian scholars and some of their number were in charge of the orchestras.

The teachers or elders, men who wore rich, dark-coloured robes, were ranged along the front of one of the flanking buildings. Before the raised terrace stood men carrying iron brackets containing large candles shrouded with red and blue silk. Seated on the terrace were the Governor and Vice-Governor, morning-coated and correct, who set the seal of official approval on the ceremony by their presence; before them stood the two officials in charge of the proceedings. One of these, tall and Chinese in appearance, controlled the orchestras and the dancers, while the other, who was short and Mongolian in type, chanted in a high-pitched voice and was answered by the responses of the elders.

The ceremony began with playing by the orchestras and a formal dance, which consisted mainly of bowing and the tracing of Chinese characters in the air with short sticks. After a time the dancers changed their yellow hats for red ones, the rhythm became more marked as they beat their sticks against little wooden plaques, bowing formally the while.

The four orchestras were strange to Western eyes both in their appearance and in the arrangement of their components. The most noticeable feature was the large bell and the set of sixteen smaller bells, tuned in quarter tones; other instruments were the drums, carefully shaped pieces of jade, wooden tigers with notched backs against which sticks were rattled, and long wooden instruments with many strings. The combined noises of these string and percussion instruments seemed to merge into a single, high-pitched resonance, a strange wailing harmony that seemed to swell, die down and change in tone to some rhythm that one could not fully

grasp: the whole being marked by slow, irregular beats on the drums.

When the performance was finished, the most venerable of the elders, who, one felt, had taken every care to emphasize their age, proceeded to the temple to sacrifice wine and incense to the spirits of Confucius and his five hundred disciples which were supposed to be present in the tablets within the temple. On the way there they stopped to wash their hands in a beautiful brass bowl placed on a table and frequently replenished from a cheap tin bucket.

When the elders had performed their rites, the Governor and Vice-Governor were formally escorted within, after which the remaining elders and the prominent Japanese proceeded up the steps to the temple, the contrast of the gorgeous, dark robes and the indifferent morning-coats producing a scene that might have come from *Alice through the Looking-glass*. If a Dodo or a friendly Chinese Dragon had appeared and begun to chat, one would have felt small surprise.

When the ceremony was over, the rabble of women and children were allowed on the terrace before the temple but barred from going within. The side buildings, however, remained open and contained long tables loaded with offerings, pork, rice and nuts amongst them.

This ceremony in Seoul is reputed to have remained the same in most respects since it was first introduced into Korea and to be of greater purity than that at Peking, which has suffered later changes and developments. If this is so, the preservation would seem to have resulted in petrification, for the whole ceremony seems stultified and artificial, like the jerking of a corpse's limbs under electrical stimulus. Whatever may happen to Confucian teaching in Korea, the ceremony cannot be compared with that of the Buddhists, which has, at present, a far greater measure of vitality.



Major E. A. Bohrer

Finlay Colour Photograph

The hope of Israel. Schoolboys from Jerusalem on a holiday tour to the agricultural settlements



Finlay Colour Photograph

Masur R. A. Beider

A modern agricultural settlement of the communal type—Geva, in the Valley of Jezreel



Moshe P. A. Bokhar

Finlay Colour Photograph

Bokharian Jews in Jerusalem attired for the Passover in their ceremonial robes



Major E. A. Becher

Sorting oranges on a Jewish plantation near Jaffa

Finlay Colour Photograph

'Back to the Land' in Palestine

by MICHAEL LANGLEY

Nearly twenty years ago Great Britain was committed, by the Balfour Declaration, to the establishment of a Jewish National Home in Palestine, in so far as this might be compatible with the rights of the existing population. Successive British governments have learnt to appreciate the difficulty of fulfilling the double obligation thus imposed. The following article deals only with the Jewish-agricultural settlements; but these suffice to demonstrate the devotion with which the Zionist ideal has been pursued, under British protection, both by the colonists themselves and by their financial supporters among Jews all over the world

IT must have been springtime when the Israelites came out of the desert, for at that period of the year the hills of Palestine are covered with wild flowers and the newcomers had yet to learn that this snug country, sun-parched during summer, was not so much a land flowing with milk and honey as one which, with effort, might be thus irrigated.

But in those days there was little need to settle and cultivate the land within limited bounds. The uncharted world 'beyond the mountains' was waiting to be captured and subdued. Temporary famine, denudation of the soil and the incursions of alien tribes drove the wanderer on. And if, as happened with the Jew, a spell of enslavement to the Egyptian master led him to forget the use of weapons and the survival value of patriotism, it was wit and adaptability, acquired during early subjection and subsequent persecution, which ensured the continuity of his race.

Having, then, developed a highly perceptive eye to the main chance, it was not unnatural that world Jewry should, in a sense, have forestalled nationalist movements in their present phase and, with the emergence of Zionism, towards the end of the last century, reverted to the idea of a homeland where, at critical moments, a shakedown might always be had.

So the possibilities of this rich land are today being so far developed by Jewish colonizers as to allow also for the cultivation of bananas, grape-fruit, oranges and, in the north, deciduous fruits and vegetable produce. Whereas in the time of

ghettos the Jews would often flee to what they regarded as their native land to die, they now go there to live. They have given a fresh stimulus to the agricultural industry of the country and the Arab fellaheen are themselves benefited by the infiltration of scientific methods and an improvement in the standard of living.

There are 187 Jewish settlements in Palestine today. They extend from Ramath Rahel, close to Bethlehem, to Metulla in the north. A population of 71,000 persons is spread over these villages and the area under cultivation is estimated at 1½ million metric *dunams* (375,000 acres).

Dotted along the coast between Jaffa and Haifa are the plantation settlements where oranges and grape-fruit are grown. This natural citrus zone is now producing over eight million cases of fruit yearly. Three-quarters of the crop goes to England, where 50 per cent of all Palestinian exports are absorbed.

In the heavier soil of the *Emek*, cereals, mixed crops, livestock and poultry are produced. The *Emek*, or Valley of Jezreel, lies between Haifa and the Sea of Galilee, and in the hills not far away is Nazareth. This rich expanse of fertile land is in itself an agricultural entity, supplying the neighbourhood with a high quality of market produce.

A little to the east of the *Emek* tract, remarkable for its settlements where farming is conducted on the collective system, is Dagania. This colony lies along the south shores of the Sea of Galilee and was the first unit to resort to the *kvutza* or



communal method of farming. Twenty-six years ago a group of Zionists settled here and, in competition with the local Arabs, went in for wheat-raising.

In post-war years the impracticability of this form of agriculture led the colonizers to turn to mixed farming and the breeding of livestock. The result wholly justifies an experiment by men whose struggle during the early years of Jewish land settlement was often a cause of despair and the criticism that Jews were unadapted to agriculture. In 1910 fifteen bachelors were scarcely able to make a living out of the Daganía settlement. Today there are over 300 people, including sixty children, living there. And since the *kvutza* farming unit is best managed by groups not exceeding 200, the settlement has divided and is now functioning in two sections, Daganía 'A' and 'B'.

I went to see Daganía 'A' and found there a group of buildings which ranged from an ironing and clothes-repairing annexe to a school for the children. The main block is surrounded by palms and cypresses which have grown to maturity during the lifetime of Josef Baratz (who conducted us round the farm). There was a fine new dining-room where every member of the community meets at meal-times. Outside some children were playing ping-pong, disappearing after every point to hunt their ball in a grove of ripening oranges. A carpenter, lately returned from the United States, was erecting a platform for an open-air concert, and a few yards away several youths were giving their most serious attention to the arranging of seats.

There were the barns, the fruit store-houses, chicken sheds full of white leghorns, the pedigree stock, which always seems to evoke such respect among farming people that the story of the golden calf becomes quite intelligible; there were vineyards, grape-fruit trees and melon plots to be seen. And as one watched a whole platoon of garden sprays distribute gentle rain over

a wide area of lawn one could not but think how far a wandering advance had brought these people since the time that they were dependent on the fortuitous precipitation of manna, or whatever other divine confection surprised them in the wilderness.

Daganía is healthy; judged as much by an expanding market for its produce at Tel Or, the neighbouring hydro-electric station for Palestine, and in Tiberias, as by the physique and appearance of its daughters, who are trained to full farm duties.

Considerable sums have been spent upon the development of this and other colonies, and Zionist organizations have bought wide tracts in the district from Arab land-owners who have grown rich on the sale of acres, hitherto fallow. During 1934 alone seven million pounds were laid out on the purchase of 28,000 acres and in the last decade more than twice that figure has been invested in the agricultural industry.

But the Palestinian Government keeps a watchful eye on the sale by Arabs of their land, while the Mufti of Jerusalem positively forbids it. Thus marsh and malaria-ridden districts are being bought, surveyed and prepared for cultivation. To the north of the Sea of Galilee is one of these areas, an unhealthy swamp which, in a few years' time, is to be turned into one of the most productive parts of Palestine.

The swamp is reached from Tiberias where the hot springs and smart hotels are bringing many of 1934's 5000 'capitalist class' immigrants on holiday visits to the Galilean shore. The price of land, food and services has soared along Galilee-Lido, as the Jews now call it. Driving on towards Lake Huleh we found that the road was good, as is true of most of Palestine's main arteries, but the driver apparently felt that it was a reflection on his skill to want to travel at anything less than fifty miles an hour. We passed through a little village whose stone houses were not unlike those simple dwellings



American Colony, Jerusalem

Old Jordan is harnessed to the service of the new Palestine—the Hydro-Electric Power Station at Tel Or, one of the benefits conferred by Zionist energy on the whole country



American Colony, Jerusalem

Another note of modernity introduced by Zionism into a Biblical scene—the 'Lido' near Tiberias on the Sea of Galilee, boasting a restaurant, tennis courts and elaborate bathing facilities



Michael Langley

Jewish corporation has paid nearly £200,000 for the right to convert the malarial swamps of Lake Huleh, north of the Sea of Galilee, into productive soil for agricultural settlement



Jewish National Fund, Jerusalem

Arab squatters, with their shacks of dried reeds, on the shores of Lake Huleh. One-third of the area drained is to be handed over to the Arab fellaheen

found in the Scottish islands, and stopped almost at the water's edge.

Lake Huleh is fed by the Jordan, a life-stream without which the Holy Land might never have attained its hallowed distinction. The river is itself something of a geographical freak, for in the short course of 150 miles it falls 4300 feet to disembogue into final oblivion in the Dead Sea, 1292 feet below Mediterranean level.

The 'Descender', as Jordan means, rises in Mount Hermon, making a rapid fall to Lake Huleh, which opens at its southern extremity to allow the river to drop a further 700 feet to the Sea of Galilee. 'The Lord created seven seas', asserts the Talmud, 'but the Sea of Kinnereth is his particular delight.' And since its waters happen to be regarded with some reverence by the local fisherfolk, as also by New Testament scholars, Jordan may be said to do well to blossom into the full dignity of a sea, as it spreads itself for a last time before descending to the lowest spot on earth.

While, then, the lower reaches of a river which waters 'a land of wheat, and barley, and vines, and pomegranates; a land of olive-oil and honey' (Deut. viii. 8) are looked on with gratification for mainly contributing to the agricultural success of Jericho and the banana plantations lately introduced there, it is in its upper levels that Jordan excites anticipation.

Huleh has long been recognized as a fertile area, but its development has been held up by malaria. A natural tendency for the younger people to leave for the towns has further retarded economic growth. So the district is a black spot in the population statistics tables, which for the 300,000 Jews now in Palestine showed a death-rate of only 9.5 and the exceedingly high birth-rate of 30.2 during 1934. But an agreement under which the Jews are now planning to drain the land is calculated to benefit their own pockets as well as the health and standard of living of Arab squatters whose shacks, built of dried

papyrus, are to be seen along the shores of the lake.

In 1914 the Ottoman Government granted a concession for these 10,000 acres of water and marshland to certain Syrian landowners. For twenty years the group 'sat on' the concession which they had obtained gratis from the Turks. Then, with the recent immigration of German and Polish Jews into north Palestine, £192,000 was paid by a Jewish corporation for a transfer of rights. But the High Commissioner has stipulated that one-third of the area must be handed over to the fellaheen directly it has been effectively drained. This, the Jews hope, will be achieved in the course of two or three years.

When I arrived at Lake Huleh the survey party were installed in mosquito-proof quarters closely resembling an aviary. Here they take their meals and discuss immediately advisable projects, such as planting a eucalyptus grove round the shores of the lake. The region must always be a damp one, it seemed, and the eucalyptus is a tree which absorbs moisture, not, however, without depreciating the value of the soil.

A boat was available, and it was of some interest to row across to the swamp, which in spring spreads a film of water lilies over the surface of what, in Biblical times, were known as the waters of Merom . . . the waters of Merom where, it is recorded, Joshua had the misfortune to come into conflict with seven local kings.

On approaching the apparently impenetrable barrier of green swamp a channel is to be seen in the water-lily bed. An abundance of wild fowl rise at the sound of splashing oars, and one proceeds slowly against the current of the Jordan, which enters Lake Huleh at this spot. When the surrounding area is drained an adequate bed will be made for the river, and its course at this point will be fully controlled. Some hundreds of yards further on the stream is confined to a course bounded on

Afforestation is one of the most permanently beneficial activities of Zionism in Palestine. The top photograph, taken when the King George V tree was planted in the Jubilee Forest, shows a typically bare hillside prepared for planting. The second shows the Balfour Forest, planted near Nazareth by the Jewish National Fund in 1929, after a few months' growth. Below is the same area in 1935. According to recent press messages, Arabs have been setting fire to this and other forests



Jewish National Fund, Jerusalem



either side by dense banks of papyrus and bulrushes. Kingfishers flit to and fro among this sub-tropical vegetation.

We stopped at a clearing where a quantity of earth had been dug to be taken away for analysis. The rich quality of a soil which has slowly silted up during a recurrence of floods dating back to pre-historic times was remarkable. Uprooting a papyrus plant, one noticed how strong a hold its 'rhubarb' root had on the heavy loam. The stem was a triangular one.

The area of this swamp and those adjoining lands where drainage operations will be necessary covers over 15,000 acres. It is an undertaking prompted by the same imaginative zeal for a 'national home' as led to the reclamation of the *Emek* and the construction, by diverting Jordan, of an electric plant at Tel Or, today the main

supply source of the country's electricity. Huleh, then, will become a new centre for agricultural colonization, and settlements are already being planned in the district.

As an instance of this, one hundred American families are now establishing themselves in northern Palestine. Their colony is based on a ten-year plan, each member family paying £125 for the lease of seven acres of land during this initial period. Mixed farming, helped out by the production of fruits previously uncultivated in Palestine, is the aim of this colony, somewhat similar to many of the *kvutza* or collective establishments which I visited in this part of the country.

Ayeleth Hashahar ('Gazelle of the Morning') is typical of the northern settlements. We arrived there just before the evening meal and were invited to share in what was going. The dining-room was



Jewish immigrants undergoing compulsory vaccination on their arrival in Palestine

Keren Hayesod, Jerusalem



Karen Hayesod, Jerusalem

Hands and bodies, nurtured in city streets, are hardened by farm labour on the Jewish colonies

about the size of an average concert hall in an English village. A girl in shorts and a blouse was laying the fourteen tables. Several groups had already assembled and, had one been given to preconceptions, it would have been surprising to find a community exerting its energies in the comparatively unedifying cause of agriculture, yet warmed to the most animated discussion while supper was still in the kitchen. I asked what the chatter was about and was told that it was a 'cultural' evening. The subject, which would later be submitted to searching analysis, was 'The League of Nations in World Politics'!

The meal was served in the rough and ready fashion of an army canteen which seems suddenly to decompose into an array of vast metal utensils whose rapid circulation brings immediate relief to the steamy tension of the kitchen. At the same time

the food was far better than those unimaginable concoctions ungenerously served to middle-class youth in schools which appear to attribute stoic value to stultifying an appreciation of food. In short, we were given an excellent fruit soup, a cutlet and a plate of vegetables and cheese. It was as simple a meal as could be had, but it was clear that no one in that room lacked nourishment.

Next to me sat a young man whose fine features and intelligent brow suggested that he might be more at home in some mid-European university. He was a point of interest for several women of Polish origin. From their appearance one would not have thought that the cream and butter went away to market. On the other side of the room were a number of Hungarians who had substituted revolutionary idealism for the active life of the



American Colony, Jerusalem

*Machinery aids the work of land drainage and reclamation on the Plain of Zebulun in Haifa Bay.
Hitherto unproductive areas are thus being made available for Jewish settlement*



Michael Langley

Two farm workers, one an American girl, painting girders for the construction of outhouses on a Jewish settlement in the north of Palestine



Tel Yosef settlement in the Valley of Jezreel was founded in 1922 and named in honour of Yosef Trumpeldor, who died in a fight with Arabs



New houses in Kinnereth, by the Sea of Galilee, a settlement of the kvutza or collective type, where agriculture and social life are organized on a communal basis

Zionist Federation



Jewish National Fund, Jerusalem

At Ayanoth, in the south, is a girls' Agricultural Training Farm, established by the Women's International Zionist Organization. Almost every kind of farm duty falls to the girls' lot

Jewish National Fund, Jerusalem





Keren Hayesod, Jerusalem

Recent arrivals from Germany working among the tomatoes in the collective settlement at Daganía, where fruit, vegetable and dairy farming is carried on



Jona Baratz, daughter of one of the settlers at Daganía. She is sitting outside the laundry where the women of the colony spend 'sewing afternoons'

Michael Langley

farm. Beside them was a group of orthodox Jews who, according to their custom, kept their hats on during the meal.

The mail arrived and with it the papers from Haifa. Someone came round distributing cigarettes to smokers, for it is a rule of the members of this settlement never to have money, leaving the selling of farm produce and the buying of stores to a committee appointed for that purpose. Only incidental expenses and an allowance for the annual fortnight's leave are needed. This applies to the *kutza*, or collective farm, where, of course, membership is wholly unconditional on any form of contract binding the personnel.

In the *moshav* settlements another plan is followed. Smallholders lease the land, maintain their family entity and dispose of produce as they like, depending only on a centralized organization for farm machinery, social services and advice. The success of these different methods is ensured by immigrants naturally turning to a life most nearly in accordance with their economic positions and previous social status. An ex-resident of the Karl Marx Hof finds no difficulty in adapting himself to a communal life, such as is found at Ayeleth Hashahar. But the professional man, deprived of a livelihood in Germany, is not inclined towards a semi-public existence in which young men and women wear only shorts and shirts, appearing perhaps at the breakfast table nonchalantly to announce: "We are married".

Need for privacy and independence is, however, accorded at least as much respect as the uninhibited ethic of younger immigrants. Thus at one farm that I saw in the plain south of Haifa, fifteen German Jew medical practitioners, living in bungalows with wives and families, were devoting their attention to the rearing of white leg-horns. And by the number of eggs that were being sent into Tel Aviv and Jaffa it might deferentially be said that this care was marked by at least as fruitful results as when directed to the welfare of the Nordic race.

As might be expected, conflicting opinions, based on political, economic and emotional prejudice, turn on the question of whether the collective or individual principle is best. But, as almost always, the last word is with the land. In districts where a wide stretch of fertile plain produces a consistently good crop, group-farming is probably advisable. Elsewhere a more profitable return may, at any rate temporarily, be obtained by individual effort.

But since Zionism is still young in practice it is unattached to any one concept of society. By the nature of its adherents it is a flexible and virile movement. Yet it is only by right of purchase that it is gaining strength in Palestine. And it is quite conceivable that a time may come when Arabs retake that land, or perhaps force the Jews into cantonments. I even heard of a case in which unscrupulous agents, negotiating a deal between beduin and Jews, only induced the nomad tribes to part with their land by consoling them with the thought that once the British administration was over they could always reclaim that land by conquest.

It is this fear of raids and theft which accounts for the nightly patrol of armed guards in the vicinity of the settlements. Watchmen are always members of the community, and on some farms it is the only job not undertaken by women.

Zionism, then, considers itself justified in exploring every direction likely to give strength and success to the movement. And some of its experiments are of great social interest. At Nahalal in the Valley of Jezreel there is a farm-school for girls. Here over one hundred pupils start as milkmaids and develop into plough-girls. At Talpioth, near Jerusalem, a farm run by women specializes in the exclusive production of cut flowers. The settlements in the Tel Aviv district are absorbing numbers of young persons, one thousand of whom came from Germany during the winter of 1935-6 to obtain a farm training with



Jewish National Fund, Jerusalem

At Nahalal (a moshav or small-holder settlement where each family farms its own land) the farm-houses form a circle, with the public buildings in the centre

Recent acts of violence by Arabs against the Jewish settlements have shown the need for armed defence. Guards, drawn from members of the community, maintain a nightly vigil



Jewish National Fund, Jerusalem



American Colony, Jerusalem

At Ben Shemen, near Lydda, is an important educational establishment housing 400 children, many of whom have come from Germany. Here they learn agriculture on the school farm



Keren Hayesod, Jerusalem

Jewish children making hay while the sun shines in Ein Harod



Zionist Federation

A communal children's house in one of the collective settlements

a view to remaining in the country. The Ayanoth colony, where the farm work is done largely by girls, was alone able to take 400 of these boys and girls. The younger ones are to spend four hours in school and four hours at light farm-duties. Others will give their whole time to the land at a season when there is a definite labour shortage in Palestine.

During the 'Jaffa' harvest last year university students and school children were helping in the orange groves. A census of workers, taken in February 1935, showed that, whereas the numbers of Jews employed in their four largest plantations had increased over the previous year's figures by only 150, Arab workers were given 6200 jobs against 2900 for 1934. The Jewish Agency, which undertakes exhaustive investigations into the labour requirements of the agricultural settlements, is, therefore, somewhat concerned that immigration certificates have only been granted to two-

fifths of the number for whom they made applications between April 1934 and 1935. Yet they recognize that the boom conditions, brought about in Palestine by the recent influx of capital, transferred from European countries by immigrants of the 'independent means' category, cannot be permanent. These settlers may have brought twelve to fourteen million pounds into Palestine during 1934, but one of the results of this has been an enormous increase in the cost of land, higher rents and greater overhead expenses for the orange growers in the citrus zone between Haifa and Jaffa.

It is estimated that the Jewish-owned land, planted with grape-fruit and orange trees, exceeds 37,000 acres, producing rather more than half of the seven million cases of fruit exported in 1934. Citriculture is of the first importance to Palestine and Jewish planters have vastly increased the output since 1920, when they farmed



Keren Hayesod, Jerusalem

Of all the enterprises undertaken by the Jews in Palestine the growing of 'Jaffa' oranges is perhaps the most notable. Over 5,000,000 cases of oranges are exported annually. (Above) A plantation of young orange trees at Ein ha-Horesh. (Below) Sorting oranges near Jaffa

Keren Hayesod, Jerusalem



only 3000 acres of groves. The 'Jaffa' and its grape-fruit rival, which matures perhaps six weeks earlier, provide 80 per cent of the country's exports. Britain buys three-quarters of this citrus crop, although there is no guarantee that she will need a similar proportion when, as is anticipated, the harvest reaches some twenty million cases in about three years' time. This increase is due largely to the fact that trees planted in recent years by Jewish immigrants are now approaching a period of greatest productivity.

I saw much of the orange groves in the Jaffa district; indeed wherever a light soil and the possibility of irrigation favoured their growth. The tree attains a height of eleven or twelve feet and is at its best after about ten years. The Jaffa fruit is of unmistakable appearance, its thick skin protecting it in transit, and, as Jewish cultivators appreciate and an 18th-century traveller remarked, 'it grows to a most prodigious size'.

Yet little is known of the history of the 'Jaffa', or *shamouty* as the natives call it. It has been said that an Armenian priest, sent on a mission to the Far East, brought it back from China. In less-cultivated forms the orange is known to date back to the return of the Jews from Babylonian exile in the fifth century B.C. . . . However that may be, ideal conditions for the cultivation of this fruit prevail along the Haifa-Jaffa seaboard. Its importance to Palestine today bears comparison with that

of the date palm of Mesopotamia, where a cult once flourished which was wholly dominated by that tree, not only materially, as the beduin are by the camel, but also in its religious life. Those, though, whose existence depended upon the seasonal abundance of dates and the shelter afforded by their leaves were not equipped as are the moderns of the Near East. Laboratory research, directed by Jews towards the perfection of the 'Jaffa', is today rewarded in a fruit of high grade, sorted by machines adapted to the curious shape of the Palestine orange and wrapped before shipment in iodine-treated paper.

Clearly these new settlers are at an advantage which the few Zionists who came to Palestine a generation ago never enjoyed. Consistent with agricultural economy no expense has been spared in developing the scientifically run farm. Even though the Jewish immigrants, elbowed out of Poland and bluntly shown the door in Germany, have had to leave their material wealth behind them, their knowledge, skill and versatility could not be taken away. They are applying these qualities to the land; they are growing oranges, though without that localized mentality which in Mesopotamia once deified the date. And if oranges should fail, some other crop will be tried. For the Jew, experimental as always, is prepared to take a hazard with the soil and the sun; and these two are at least as generous in Palestine as in most parts of the west.

Red Deer in Scotland

by F. FRASER DARLING

Tourists in the Highlands who travel afoot are liable to invade domains reserved for one of Scotland's oldest inhabitants—the red deer. They will be the less inclined to disturb so sensitive a creature when they realize the complexity of its social existence, as described by Dr Darling, who has spent two years investigating the life of the deer in certain 'forests' of Wester Ross by the courtesy of their owners—Mrs Maitland, Sir Alexander Gibb and Lord Zetland

MAN hunted the deer early in his emigrations to northern latitudes and there can be little doubt that the cervine family has been very closely linked with human diffusion in the northern hemisphere. From the Atlantic coast of Norway across the tundra to the Bering Strait, the reindeer has been domesticated and is the basis of human existence over that vast expanse. The New World variety, the caribou, has never meant quite so much to the Indians and Eskimos of Alaska and Northern Canada, though the great migrating herds have always been harried by them for food and other domestic purposes. The United States and Canadian governments are both developing a reindeer industry in their northern territories because they realize its immense sociological value in those countries.

The red deer has never been domesticated, and early in European civilization, when hunting had become less of a necessity and more of a pleasure, this beast became the subject of protection, in so far as the chase was reserved for the upper classes of society and large areas of country were set aside where the deer might roam unhindered by settlement and agriculture. The survival of the wild red deer in Britain may be laid wholly to the credit of the chase, though we may hope that more kindly reasons may preserve it for the future in a series of national parks, which Britain lacks at present.

Deer forest ground in the Scottish Highlands extends over an area of more than two and a half million acres of the highest and barest mountains, and the system of private ownership of land and carefully

regulated stalking provides an important Highland industry. The preservation of the Scottish red deer has indirectly resulted in the survival of the golden eagle and the wild cat, two picturesque species which we should now be loth to lose from the list of our larger fauna.

The red deer has a well-developed herd life and it was mainly this aspect of their behaviour which drew the writer to make a protracted study of the deer on one particular area of forest. What do they do and how are their lives ordered? What are the effects of environment on their behaviour? Plants are stationary organisms and become adapted to their environment by far-reaching structural modifications, but free-moving animals can adjust themselves to external conditions by many acts of behaviour as well. Sociality is a complex of behaviour of profound adaptational value and is inextricably bound up with reproduction of the species.

POPULATION AND TERRITORIES

The Forests of Dundonnell, Gruinard and Letterewe in Wester Ross are at the north-western edge of the largest continuous tract of deer forest in the Scottish Highlands, that which stretches southward to the foot of the Great Glen, and the portions of these forests where the study was made extend over 50,000 acres. The sharply peaked mountains on each side of the south-eastern end of Loch na Sheallag and the ground to the foot of them are of a geological formation which gives precipices and slopes of alpine herbage; and below are terraced troughs which become



All photographs by F. Fraser Darling

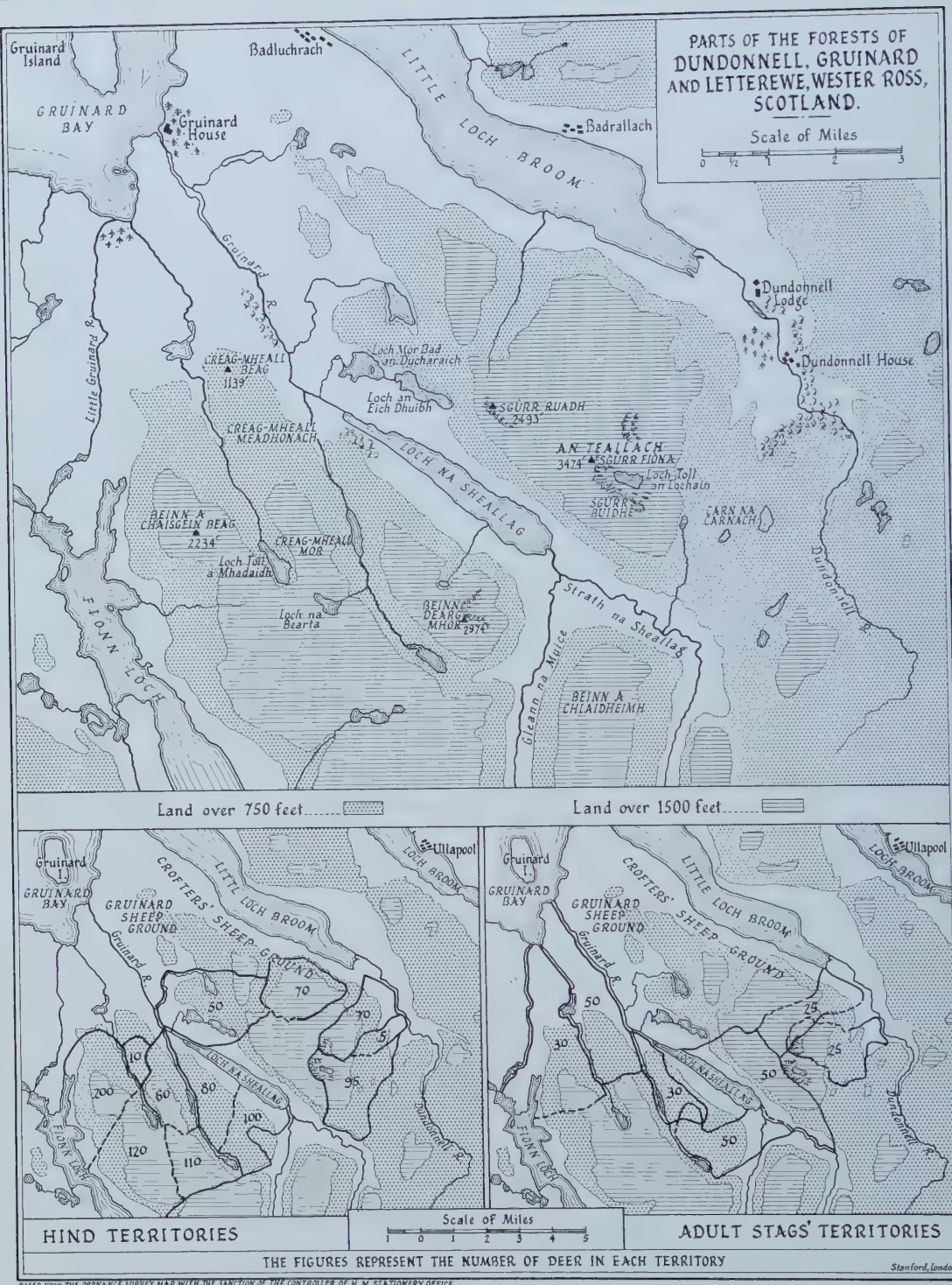
Red deer stags grazing together, as they do all winter, spring and most of the summer

waterlogged and full of peat. Vegetation is everywhere sparse and of poor quality, and the general plant association is of sedges, bents, mosses and lichens. Heather and ling are not the chief components of the hillside herbage as they are farther east where the hills and the weather are drier.

On each side of the Gruinard River and for some distance inland between Loch na Sheallag and Fionn Loch the hills are lower but extremely rocky and of a different geological formation. This is better ground for deer, and the cervine population is much denser here than in the area previously mentioned. At the eastern end of the ground is a low hill, Carn na Carnach, composed of yet another formation, which breaks down into true soil and therefore produces better and sweeter herbage. The deer are much attracted to it and the little hill carries a good number of animals.

An observer of red deer on a particular area of ground can make a census of the animals present with fair accuracy and, excluding calves, the density is found to average one to about 40 acres. This is a figure which is surprisingly constant for wild members of the deer family in the northern hemisphere, and it would seem that deer are peculiarly averse from conditions of overcrowding. Improvement in food conditions increases density to some extent but not in strict proportion. The deer must have space.

Familiarity with the ground and the animals brings a knowledge of group territories which is at once enlightening and fundamental to an understanding of the social system of the red deer. The sexes are separate for the greater part of the year and observe closely the boundaries of their territories. These group areas are of three to six thousand acres in extent and



RED DEER IN SCOTLAND

variously shaped in accordance with the lie of the land. For the most part, the foot of a glen forms a boundary rather than the ridge of a hill.

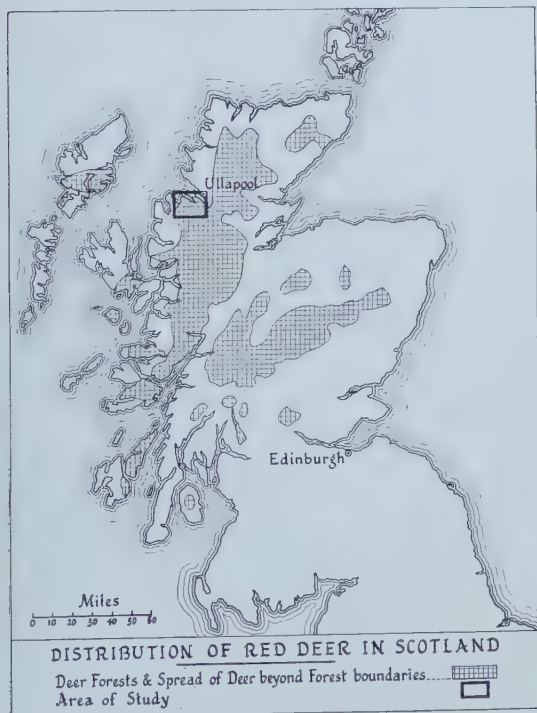
The weather—a period of deep snow, for example—will cause the deer to break their boundaries and move over the ground of other groups. This is in no sense an invasion and no territorial jealousy is noticeable. As soon as conditions permit, the strangers return to their own grounds. All the territories are traversed by deer paths, and it is striking how surely these paths take the best way through rough ground and bogs and to the places where rivers can be crossed. The precipice of Sgurr Fiona (Fheoin) falls almost sheer to Loch Toll an Lochain on An Teallach and it is impossible to walk round the head of the lochan anywhere near shore level. Between two and three hundred feet higher up there is a tortuous track made by the deer. The writer followed it implicitly on his first traverse, in some places against his own judgment,

but he knew that the deer would be right and that where the deer will go man may follow easily. Deer never indulge in mountaineering as the wild goats of An Teallach do.

THE SOCIAL SYSTEM

The stags form loose companies of twenty to sixty individuals. There is no leader and each member is for himself in times of emergency. The hind-groups are very differently constructed. They consist of ten to a hundred individuals each and there is always one mature hind, usually with a calf at foot, who is the leader of the group. Her authority is never disputed and she leads the way in all movements of retreat from danger. There is a second-in-command also, who brings up the rear, and it is a pretty thing to watch a group of hinds moving away in a compact, shuttle-shaped band. All hinds can bark, but such is the social discipline that only the leader does so. That is a signal. The others gather towards her, she trots away, and as she and the herd pass out of sight, the last hind stops and watches the source of disturbance. The main herd may not come in sight again, and after a few minutes the hind will follow the others; or, if they do appear again, the leader and the herd will stand and watch, giving the second-in-command time to cross the intervening distance and rejoin the herd.

Territory is composed of summer and winter ground, and the summer portion, which is at the higher altitudes, is often grazed communally. Nevertheless, the groups maintain their identity, and a storm of wind in July will split up the large herds on the high hills and send the stags and hinds back to their own wintering grounds. This communality of summer grazing is comparable with the human custom in the same area years ago, when the folk lived on their own separate crofts during the winter and the whole community with the cattle moved uphill for





In the deer forests of Wester Ross, among the hills and glens around Loch na Sheallag. (Above) Looking up the Gruinard River, on the rocky sides of which the deer abound. (Below) Gleann na Muice, looking south from Sgurr Buidhe, with Loch na Sheallag in the lower right corner





(Above) Beinn Dearg Mhor, one of the sharply peaked mountains at the southern end of Loch na Sheallag on which vegetation is sparser and the deer population correspondingly thinner. (Below) Sgurr Ruadh, to the north, and the foot of Loch na Sheallag, near where the Gruinard flows out



the summer to the sheilings where grazing was common.

Partition of the sexes in red deer for most of the year, lack of leadership in the stag companies, and the high degree of social cohesion in the hind-groups, lead us to the conclusion that sociality in the red deer takes the form of a matriarchy, founded on the family. Maternal care is protracted until the young deer are three years old, at which time the young stags leave the hind-group and join companies of older stags. The young hinds stay with the maternal group, the size of which is regulated to some extent by colonization by a few mature hinds and their followers. Over a period of years the shapes of the territories are found to alter by the spread and regression of groups. The main characteristic of the hind communities is that each is for all, the maternal instinct being extended to embrace the whole herd,

but the members of the stag companies are egocentric and the association is looser and more casual. Within the large hind-groups there are smaller family groups which show preferences for particular areas of the territories. It is remarkable how soon the group gathers in face of danger, but for most of the time it is split into its families. British deer are free from attack by predatory enemies when mature, and they do not move in the large herds common to American and Siberian species. Flocking of animals is a social adaptation to adverse environmental conditions, and its value against the attacks of predators may be assessed by comparison with the habit in domesticated sheep in Canada. On the ranges, sheep of Merino ancestry are kept because they feed and rest in close formation. Some of the hardy British mountain breeds would better suit the climate and herbage, but they are not kept, because



Canna or bog cotton is a favourite food of the red deer



Red deer suffer from various parasites—ticks, keds and so on: they habitually use trees for rubbing themselves, with such vigour that the bark is worn away and the wood beneath becomes polished

they will not flock and the coyote would take too heavy a toll of them.

The statement may be accepted that sociality in animal life is of value to the survival of the species in which it occurs. The herd as a whole is greater than the sum of its parts. Division of labour occurs, of which vigilance and leadership in the hind-groups are examples in red deer. Education is protracted and modifications of behaviour can be tried with a greater margin of safety. Thus, as Dr Albert Schweitzer has emphasized in his Gifford Lectures of 1935, there arise the foundations of an ethical code, in that responsibility to and for the herd is superimposed on the primary instinct of self-preservation.

These facts understood, it becomes obvious that the partition of the sexes in red deer is an important evolutionary advance in sociality, in that it allows the formation of larger grazing groups. While a hind

leads a herd the tendency is to embrace more individuals, but if a male is the leader his protective habits are tempered by sexual jealousy, and the group is small and individuals are driven out. The red deer is often spoken of as being gregarious and the roe deer as being more or less solitary. Broadly this is true, but the generalization entirely misses the basic reason that the red deer has a matriarchal and the roe deer a patriarchal system. If you watch three or four roe deer grazing through the woods, you will notice that vigilance is exercised by the buck and that he is the leader. He drives away the young males as yearlings, and the does are not kindly disposed to the yearlings when the fawns of the season are born. Increase among stocks of roe deer occurs only under very favourable conditions, but the red deer spreads and multiplies rapidly unless there is organized control of its numbers.

The red hind calves in June and for a few days she leaves the group to graze within a quarter of a mile of her calf, which lies in the grass and heather for the first three days of its life. If it attempts to follow her when she suckles it twice a day, she pushes it back into its bed with her muzzle, or, if it is very determined, she gives it a sound spank with her forefoot and then leaps away to gallop out of sight and scent of the calf. The hind fondles the calf very frequently when it is running at her side and they have joined the group again. She suckles it all through the winter and following spring, and it is not unusual to see the yearling and the calf of the year sucking from their mother at the same time. The greatest mortality among deer occurs in the first year of their lives, practically 50 per cent, and the long lactation period must be of very great importance for the survival of the species.

Here we may leave the hind for a time and consider the life of the stag, which is so very different. He grazes with a bunch of his fellows all winter, spring and most of the summer. In April the antlers are shed and new ones begin to grow immediately, covered by the 'velvet' or nutritive skin. The phenomenon of the annual regrowth of antlers in deer remains a biological problem. Antlers are not horn but bony growths, and in a country deficient in lime, like the Scottish Highlands, their growth each year after the hardships of winter is physiologically expensive. We are not even clear as to the value and purpose of antlers. Some stags are devoid of them and are known as 'hummels'. These beasts are very able in fighting at the rutting season and are rarely without a harem of hinds at that time. Stags which have poor antlers, consisting of the main shafts only and perhaps the brow points, are called 'switches', and these are also more than ordinarily successful in ousting other stags. The large, many-branched antlers which appear to us so beautiful tend to be more of a handicap than a weapon of

value. The antlers are weapons, nevertheless, but used only during the rutting season. In the winter time and during the summer when the antlers are still growing and tender, stags settle their occasional differences as the hinds do, by standing on the hind legs and striking at each other with the forefeet. The antlers become hard in August and the blood supply is cut off from the velvet, which then strips off as dead skin and is commonly eaten by the stag.

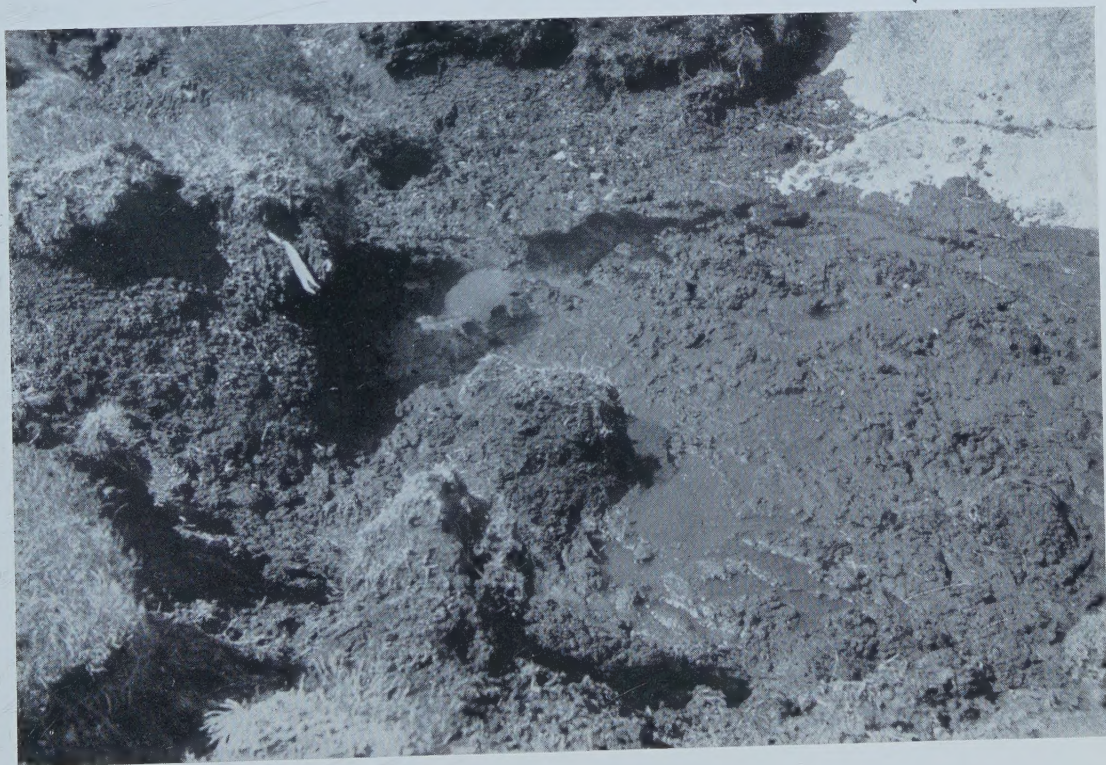
THE RUTTING SEASON

It is after the hardening of the antlers that development of the reproductive organs occurs. The mane grows shaggy and dark in colour, the neck itself thickens, and towards the end of September the stag finds his voice in a roar. The short, incisive bark of the hind which may be given at any time of the year is a warning note, carrying far and setting all deer that hear it on the alert. But the roar of the stag is heard only from the middle of September to the beginning of November and it is a voice of challenge. It has great volume but does not carry far. Sometimes the writer has been within four hundred yards of a stag roaring hard and yet the wind has been from such a quarter that not a sound was heard. A hind's bark would have come through to a much greater distance.

The stags move restlessly about their territories in the two or three weeks before the rut breaks, but they show no animosity until one day—suddenly, as it seems to the observer—one and another will break into a run and leave his fellows. Rutting stags are much addicted to wallowing in wet peat, and this habit is in itself of considerable interest. Both sexes wallow in the spring when the old coat is being shed and the great multitudes of castor bean ticks are finding hosts. At that time the stags choose wet places where the peat can be pawed up into a creamy consistency, but the hinds prefer a drier peat hag where



Both hinds and stags make wallows for themselves in the spring, when the old coat is being shed. A hind wallow (above) is in a dry, crumbly peat hag, while a stag's (below) is in a wet place where the peat can be pawed up into a creamy consistency



the peat is reduced to a fine crumbly state. The wallowing of stags in September is of a totally different order. The effect achieved is to make the stag appear almost black in colour and, to our eyes, of most impressive appearance. It is probable that in this condition he impresses his fellows also, for many animals, wishing to inspire fear and to make the greatest psychological use of their appearance in fighting, display the darkest-coloured portions of their bodies. It is a curious fact, too, that deer are more frightened of men when dressed in dark clothes than when in light ones.

The stags coming first into rut leave their own grounds and move into the hind territories. Some travel at their characteristic trotting gait very far afield, and a stag has been known to cross and recross Scotland in the course of a fortnight. The writer's own observations lead him to the conclusion that stags have their own habitual journeys at the rutting time, and although the actual hinds they herd together in a harem may not be all the same ones, the stags tend to visit the same grounds each year. The rutting territories are small—a few acres each—and their boundaries are exceptionally discrete at any given moment. But as the hinds graze to and fro the boundaries are constantly changing.

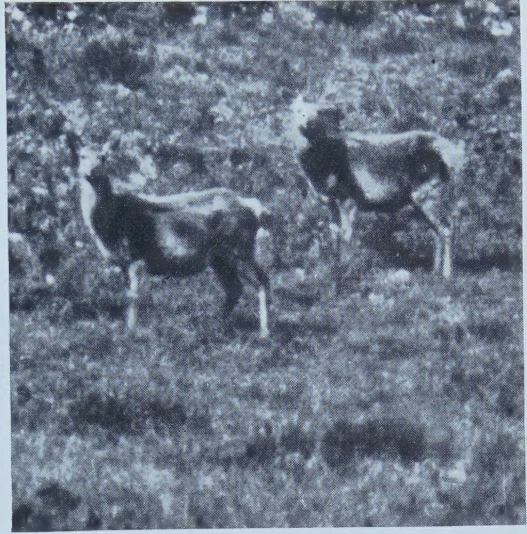
The rutting territories are bunched on the hind grounds, and familiarity with the actual country would show that they are placed for the most part on those parts of the ground where fast movement is possible on the part of the stag. The tactical necessity of this is obvious.

The first stags have all the hinds to themselves at the beginning of the season, and a single stag's activity in herding round an impassive group of sixty or seventy hinds is prodigious. He never rests, but runs round and round them, stopping to roar, chasing out a young stag here and there, lying down a minute, up again and running round once more. Such is his life and his abdomen gets small and tucked up

like that of a racehorse. He eats very little for the time he is with the hinds and that little is *Lycopodium* moss for the most part. As the rut advances and more hinds come in season, fresh stags come in and take away hinds from the main group to form harems for themselves. One stag, watched by the writer on Beinn a' Chaisgein Beag, had 77 hinds and followers on September 28, 1934, 46 on the 30th, 23 on October 4, and 11 on the 7th. Then he disappeared.

This brings us to another aspect of the rutting season. Each stag is not fully active from the onset till the close of the season. He has short rests periods during which he disappears from the rutting grounds. Where do spent stags go? Uphill into the cold, to ground which seems to be accepted as neutral territory. There the stags lie and graze solitarily and you will hear no roaring from them, until one day one of them will get up from rest, trot downhill and, as soon as he reaches the hind ground, will begin to roar. The tempo of his activity rises to a high pitch and he will run in among the harems, muzzle outstretched, roaring as he runs, and a spent stag will take to his heels and allow the fresh one possession. These journeys of stags are difficult to watch, but the writer has been lucky in observing them on two or three occasions and has been impressed by the difference in the stag's behaviour on the high neutral ground and when he has reached the rutting territories. Cold appears to have an important effect on the rutting activity of the stag. This is always more intense in dry, cold weather and in those harems which are situated at a high and therefore cold level. Cold nights are full of the sound of roaring, but if mist descends and there is a mild humid atmosphere, sexual activity and roaring drop remarkably.

The rut tails off in the beginning of November. The spent stags collect on the high ground for recuperation if the weather allows, and a few young stags are roaring desultorily among the hinds. These young



Hinds grazing. Note the position of the forefeet: they heard the click of the camera when the first picture was taken and brought the feet together, giving the head all possible height

beasts, though sexually potent and responsible for the late calves, which are born occasionally as late as October, show none of that ability and finesse in herding a harem together which the mature stags display.

THE SENSES

The senses of red deer are acute, particularly the sense of smell. An observer of deer will often notice them lifting their muzzles into the air and passing the wet tongue over the nostrils as if to catch any possible strange scent that the wind may be carrying. The sense of smell is affected by the degree of humidity of the atmosphere, and the writer has been able to check this finding with the help of a hygograph. Normally, atmospheric humidity in the Scottish Highlands is high and, what is significant in the interests of the deer, it is constantly changing. The track of this instrument shows an oscillation of a few points every few minutes. This constant variation in atmospheric humidity acts as a physiological stimulus on the delicate olfactory apparatus of the deer, making it constantly sensitive. Now if there comes

a remarkably dry period, the oscillations of the hygograph are less frequent and less pronounced and the deer are easier to approach. A sharp rise in humidity results in greater timidity of the deer. The writer found a strictly comparable observation in a Finnish paper on reindeer herding in Lapland. When the deer are corralled in winter, the herders are very careful when a thaw occurs, for then the reindeer become irritable and are liable to break down the fences and stampede. A thaw means rapid variations in atmospheric humidity.

Deer know a day or two beforehand if heavy snow is coming. They flock and come low in the glens. When thaw is imminent they move up again, but *before* the thaw actually occurs. The writer believes that this foreknowledge is gained by olfactory means. Deep snow ahead means an appreciable drop in humidity, linked with a north wind. The hygograph registers greater variation and a higher humidity some time before the actual rise in temperature causing the thaw.

Hearing is also a highly developed sense in deer and it is very selective in action.



Looking down the Gruinard Forest from Sgurr Ruadh, past Loch an Eich Dhuibh and Loch Mor Bad an Ducharaich towards the sea

A wind may be blowing hard and making such a noise that the human being can hear nothing else. The deer are able to pick out quite slight alien sounds from such a turmoil. Hearing may be called the inquisitive sense. A strange sound, unattended by a sight or scent which would cause fright, seems to intrigue deer. They listen, cock their heads on one side, and may come very near to the source of the sound. The writer has whistled and sung within seventy yards of deer and they have made no attempt to move away. And then, to see what happened, he has scraped the metal of his shoe-toe against a rock, a sound they know. They have waited no longer.

The sight of red deer may not be quite so good as that of man, but it is far more practised. A stalker can leave nothing to chance on this sense unless the sun is low

and directly in the eyes of the deer. Their vision is less acute in the twilight.

Of the sense of taste we can know little, but deer have marked food preferences, which would indicate a well developed taste.

Touch is sensed by the muzzle. It is common to see a hind touching her calf and other objects with her muzzle, and sometimes if she can neither see nor smell a person whose approach she suspects she will press her muzzle to the ground to *feel* his steps.

Here is one short chapter in the life of a beautiful creature. It is possible that in the course of human social evolution the red deer may cease to continue as an object of private sport, which activity has been responsible for its survival to the present. Let us hope that its future will be assured as one of the most ancient and picturesque of our fauna.